

FCC Part 15C Measurement and Test Report

For

CIK Telecom INC.

282 consumers road, Toronto, ON, M2J 1P8, Canada.

FCC ID: 2AALQ-HG-A800

FCC Rules: FCC Part 15C

Product Description: ADSL Home Gateway

Tested Model: HG-A800 V1.5

Report No.: STR13078107I-1

Tested Date: 2013-07-12 to 2013-08-06

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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: CIK Telecom INC.
 Address of applicant: 282 consumers road, Toronto, ON, M2J 1P8, Canada.

Manufacturer: CIK Telecom INC.
 Address of manufacturer: 282 consumers road, Toronto, ON, M2J 1P8, Canada.

General Description of EUT	
Product Name:	ADSL Home Gateway
Trade Name:	/
Model No.:	HG-A800 V1.5
Rated Voltage:	DC 12V
Rated Current:	1A
Power Adaptor Model:	RD1201000-C55-1MG,
	Input: 100-240 50/60Hz,0.6A Output: DC 12V,1A
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Support Standards:	802.11b, 802.11g, 802.11n-HT20, 802.11n-HT40
Frequency Range:	2412-2462MHz for 11b/g/n-HT20 2422-2452MHz for 802.11n-HT40
RF Output Power:	18.21 dBm (Conducted)
Data Rate:	1-11Mbps, 6-54Mbps, 150Mbps up to 300Mbps
Modulation:	CCK, OFDM, QPSK, BPSK, 16QAM, 64QAM
Quantity of Channels:	11 for 802.11b/g/n-HT20 7 for 802.11n-HT40
Channel Separation:	5MHz
Antenna Type:	Integral Antenna
Antenna Gain:	Chain 0(external) 2dBi, Chain 1(internal) 4dBi
Lowest Internal Frequency of EUT:	20MHz
Device Category:	Fixed Device

1.2 Test Standards

The following report is prepared on behalf of the CIK Telecom INC. in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The public notice KDB 558074 for digital transmission systems shall be performed also.

1.4 Test Facility

- **FCC – Registration No.: 994117**

SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.

- **Industry Canada (IC) Registration No.: 7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C (518101)

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	802.11b	2412MHz, 2437MHz, 2462MHz
TM2	802.11g	2412MHz, 2437MHz, 2462MHz
TM3	802.11n-HT20	2412MHz, 2437MHz, 2462MHz
TM4	802.11n-HT40	2422MHz, 2437MHz, 2452MHz

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
RJ45 Cable	2.0	Unshielded	Without Core
RJ11 Cable	1.5	Unshielded	Without Core
DC Power Cable	1.4	Unshielded	Without Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E23	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§ 15.207(a)	Conducted Emission	Compliant
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	RF Output Power	Compliant
§ 15.209(a)(d)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable

3. Antenna Requirement

3.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.2 Evaluation Information

This product has two integral antennas, fulfill the requirement of this section.

4. Power Spectral Density

4.1 Standard Applicable

According to 15.247(a)(1)(iii), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2013-05-07	2014-05-06
Attenuator	ATTEN	ATS100-4-20	/	2013-05-07	2014-05-06

4.3 Test Procedure

According to the KDB 558074 D01 v03r01, the test method of power spectral density as below:

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set analyzer center frequency to DTS channel center frequency.
3. Set the span to 1.5 times the DTS channel bandwidth.
4. Set the RBW ≥ 3 kHz.
5. Set the VBW $\geq 3 \times$ RBW.
6. Detector = peak.
7. Sweep time = auto couple.
8. Trace mode = max hold.
9. Allow trace to fully stabilize.
10. Use the peak marker function to determine the maximum amplitude level.
11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.4 Environmental Conditions

Temperature:	20° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

Test Mode	Test Channel MHz	Chain 0 PSD dBm/3kHz	Chain 1 PSD dBm/3kHz	Chain 0 and Chain 1 dBm/3kHz	Limit dBm/3kHz
802.11b	2412	-8.42	-8.74	/	8
	2437	-8.32	-8.08	/	8
	2462	-8.49	-8.76	/	8
802.11g	2412	-10.99	-11.90	/	8
	2437	-12.10	-12.18	/	8
	2462	-12.53	-12.64	/	8

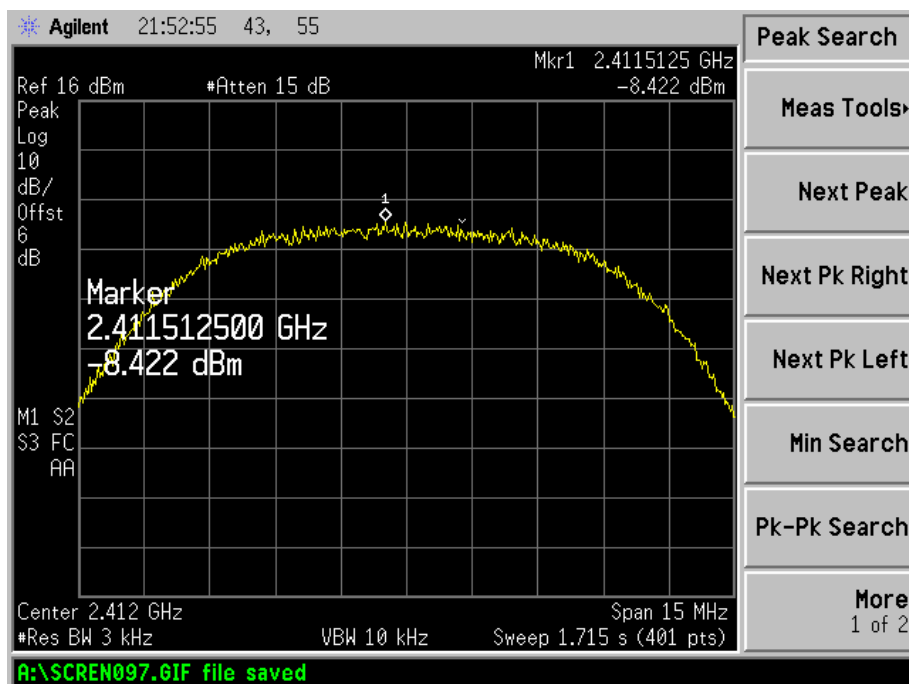
Test Mode	Test Channel MHz	Chain 0 PSD dBm/3kHz	Chain 1 PSD dBm/3kHz	Chain 0 and Chain 1 dBm/3kHz	Limit dBm/3kHz
802.11n HT20 MCS0	2412	-12.77	-13.05	-9.90	8
	2437	-12.97	-12.78	-9.86	8
	2462	-13.33	-13.59	-10.45	8
802.11n HT40 MCS0	2422	-15.38	-15.34	-12.35	8
	2437	-13.62	-15.06	-11.27	8
	2452	-16.25	-16.47	-13.35	8

Note: The EUT will be simultaneous transmission at the chain 0 and chain 1 for the mode of 802.11n HT20 or HT40, transmission only single at chain 0 or chain 1 for 802.11b/g;

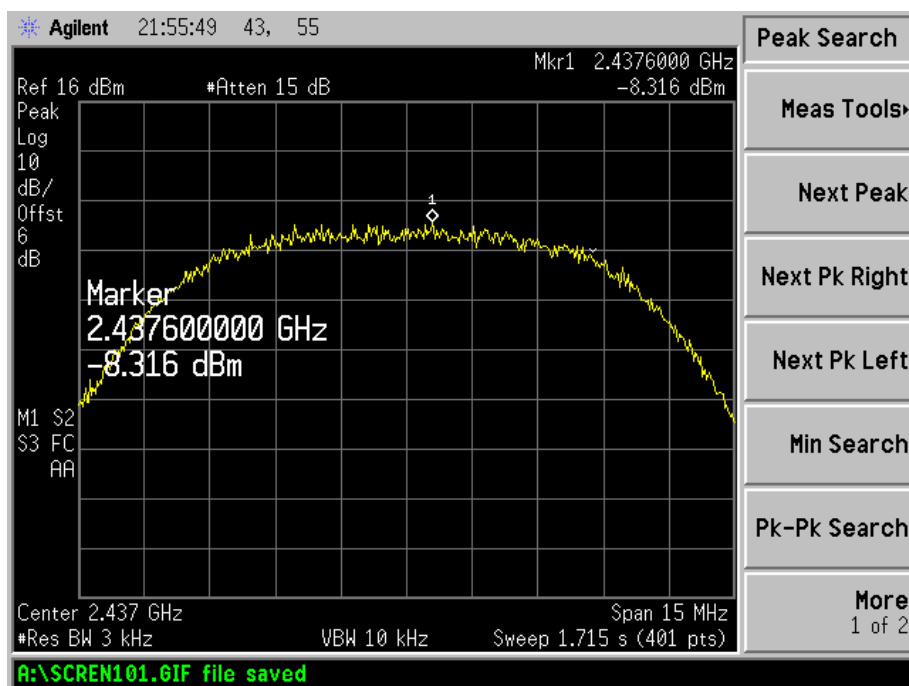
Please refer to the following test plots:

For Chain 0

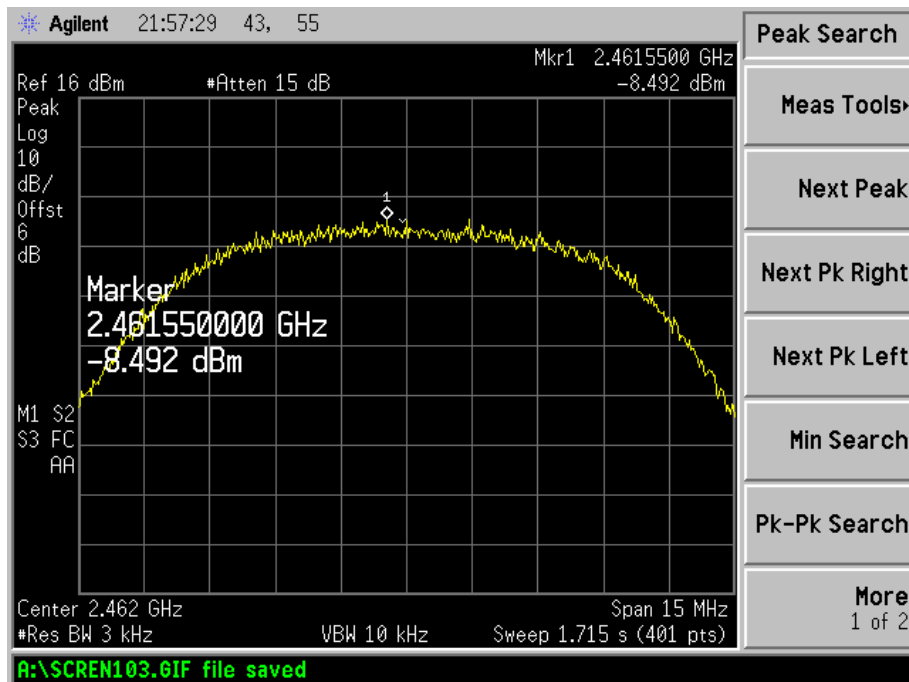
802.11b-Low Channel



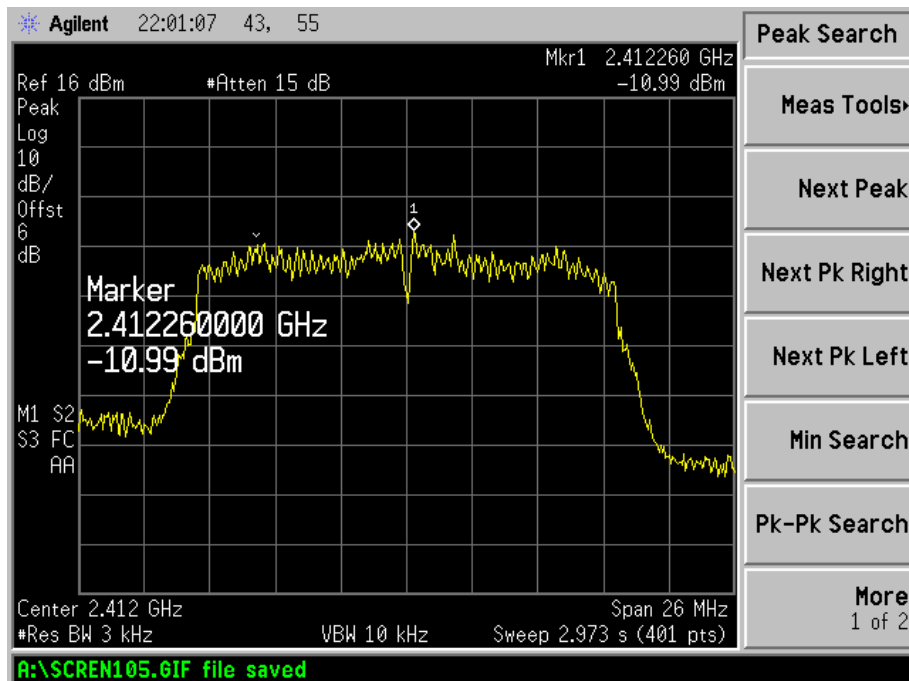
802.11b-Middle Channel



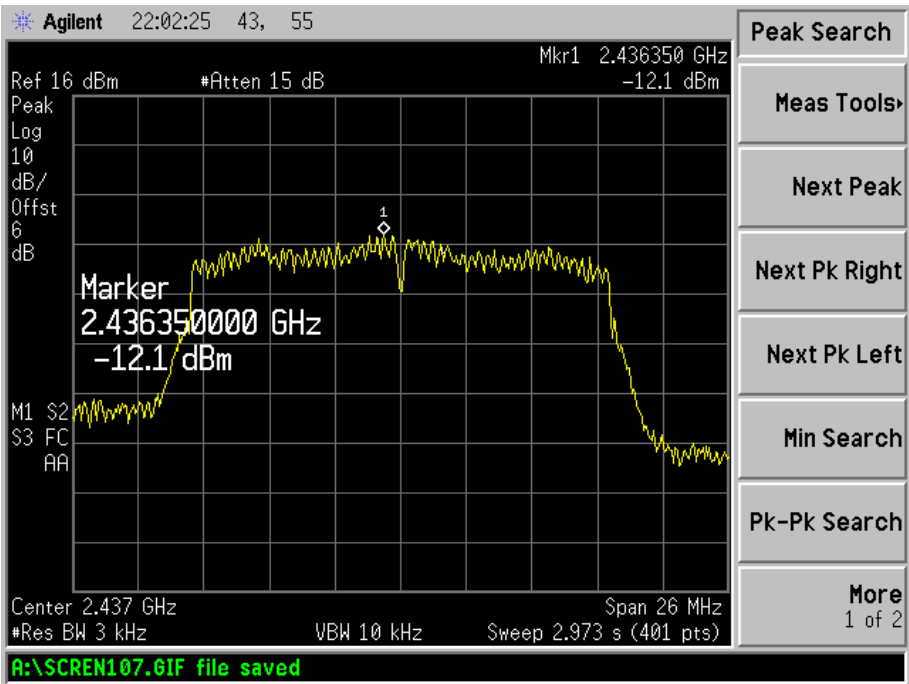
802.11b-High Channel



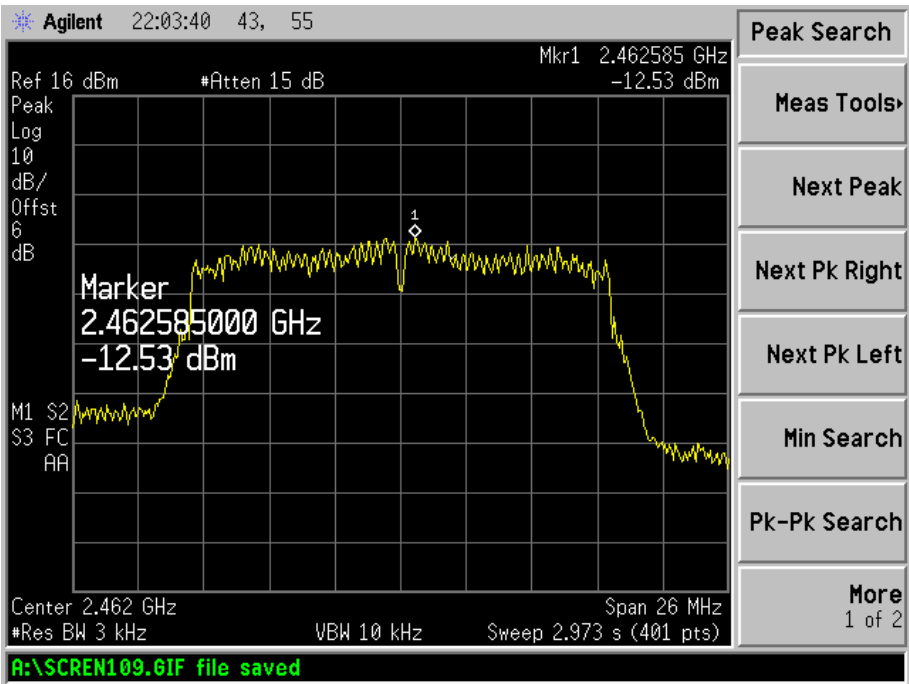
802.11g-Low Channel



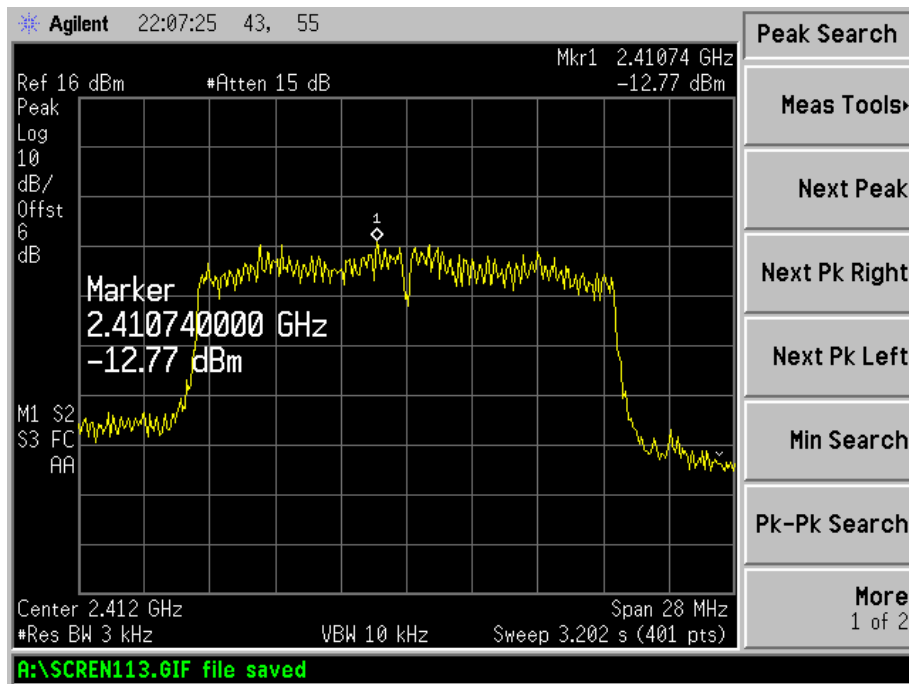
802.11g-Middle Channel



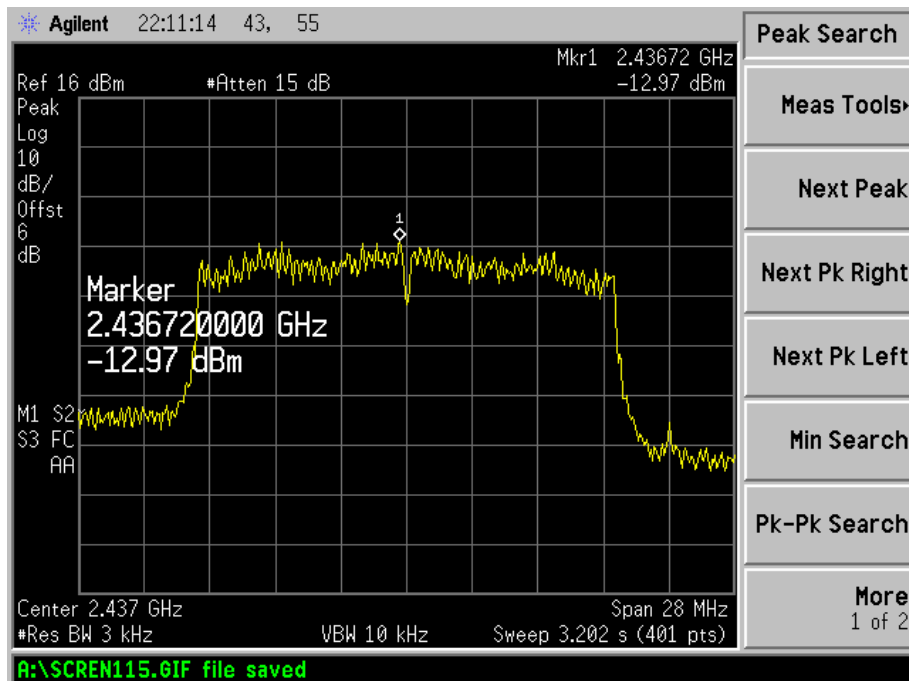
802.11g-High Channel



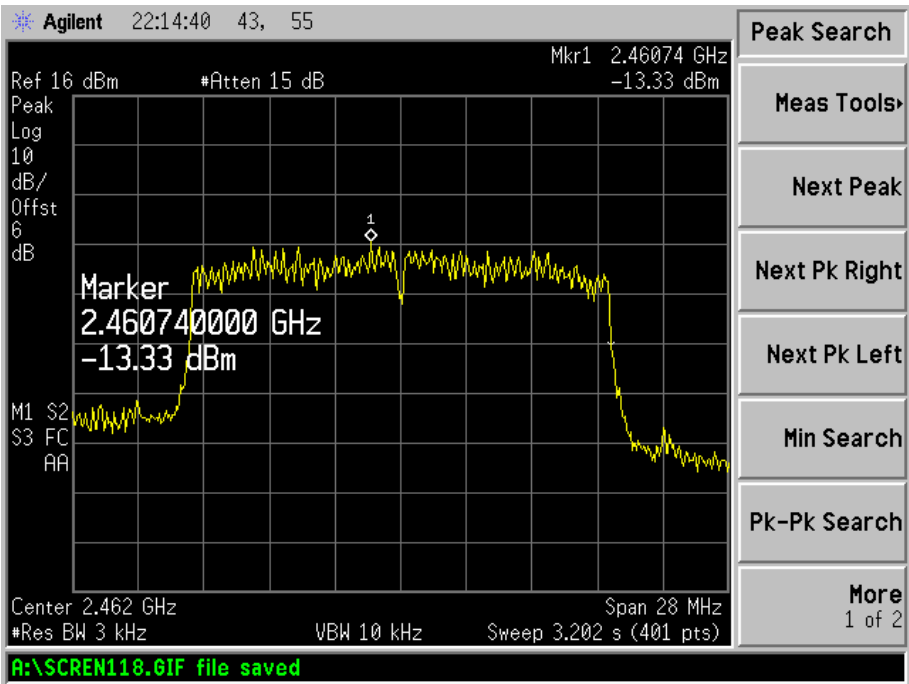
802.11n-HT20-Low Channel



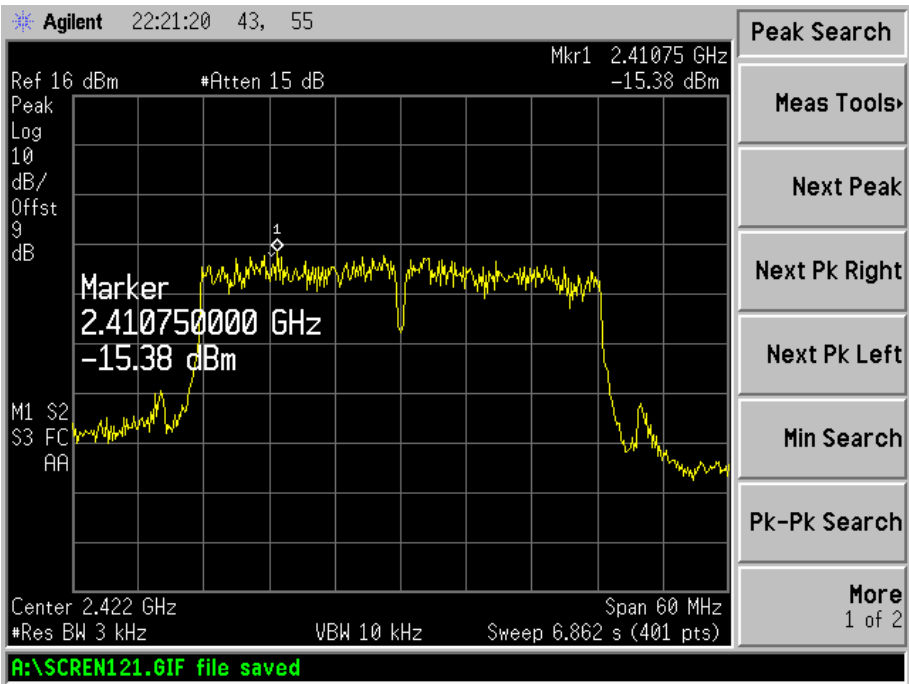
802.11n-HT20-Middle Channel



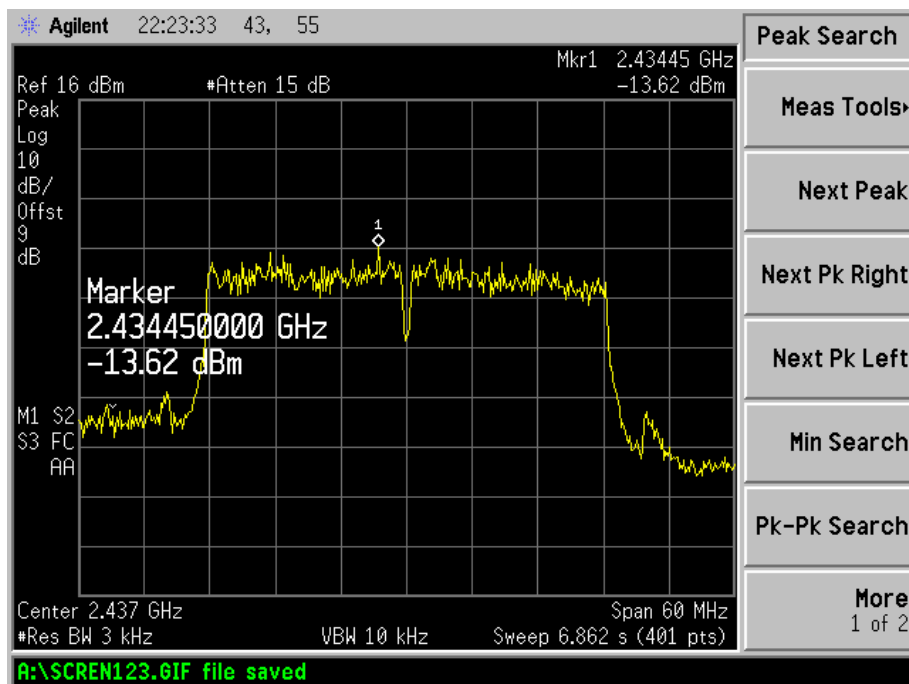
802.11n-HT20-High Channel



802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel

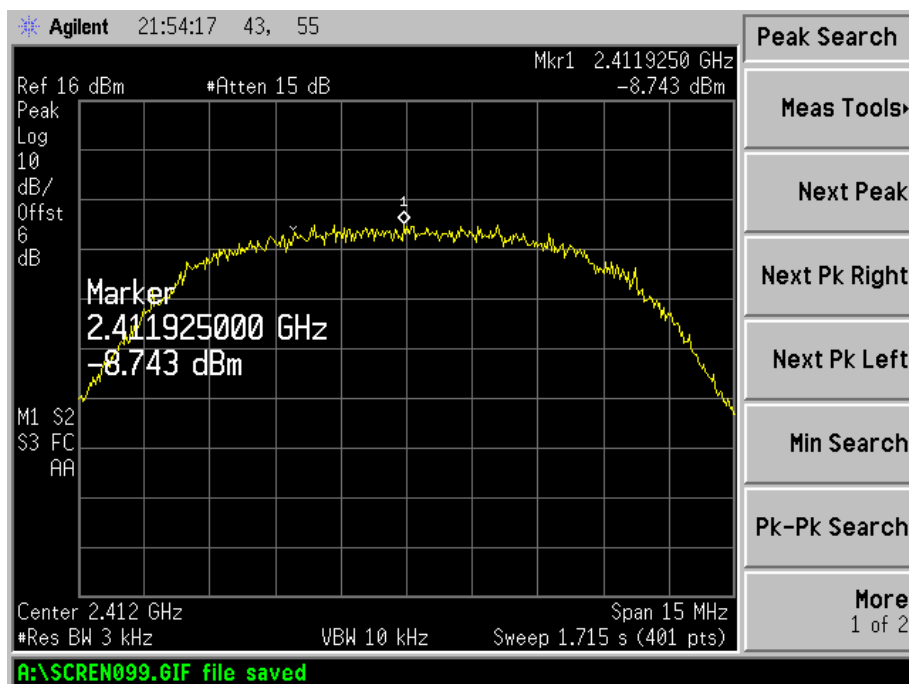


802.11n-HT40-High Channel

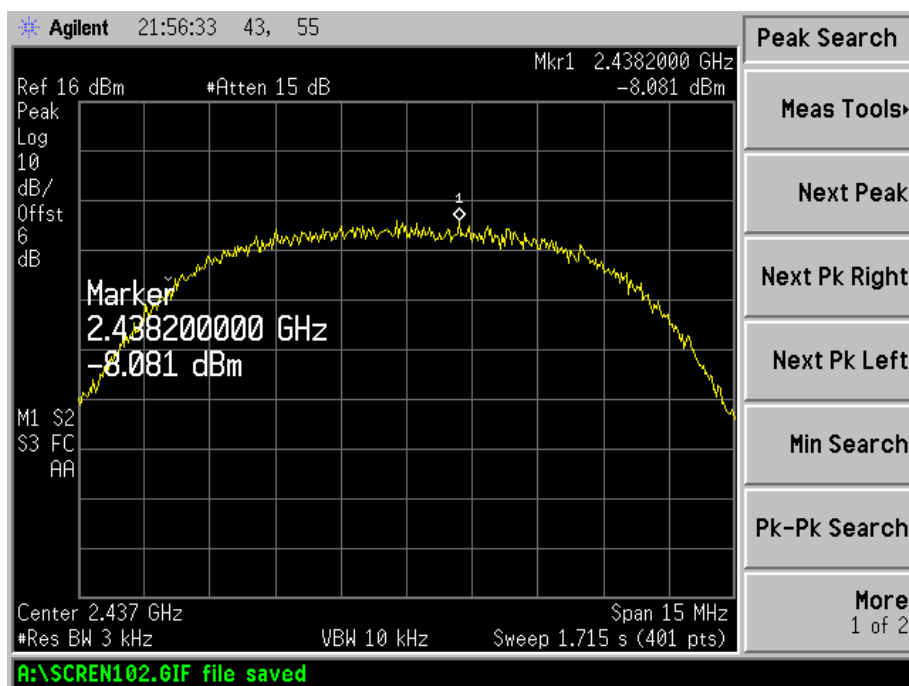


For Chain 1

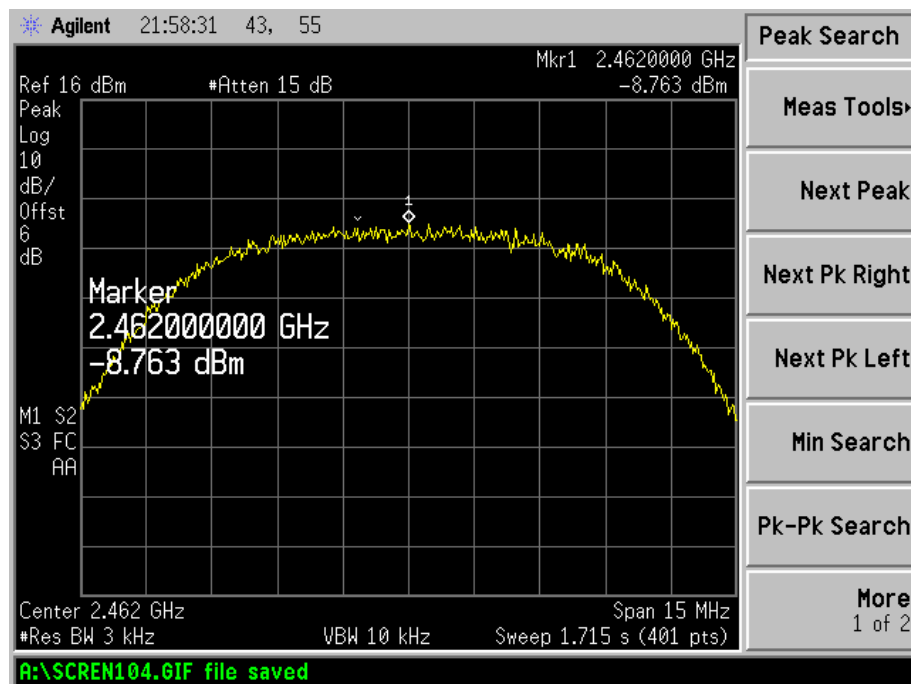
802.11b-Low Channel



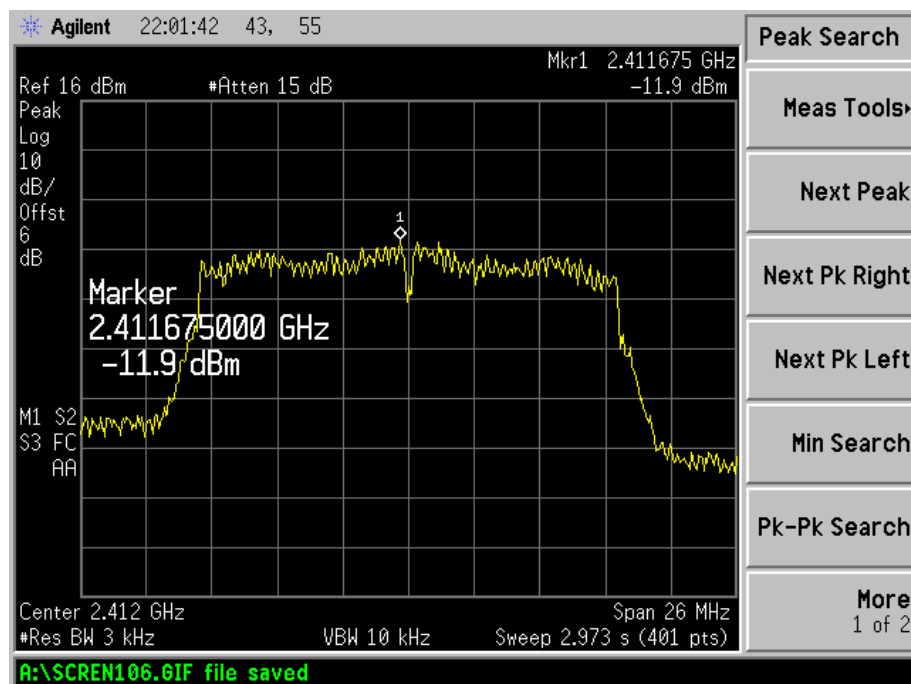
802.11b-Middle Channel



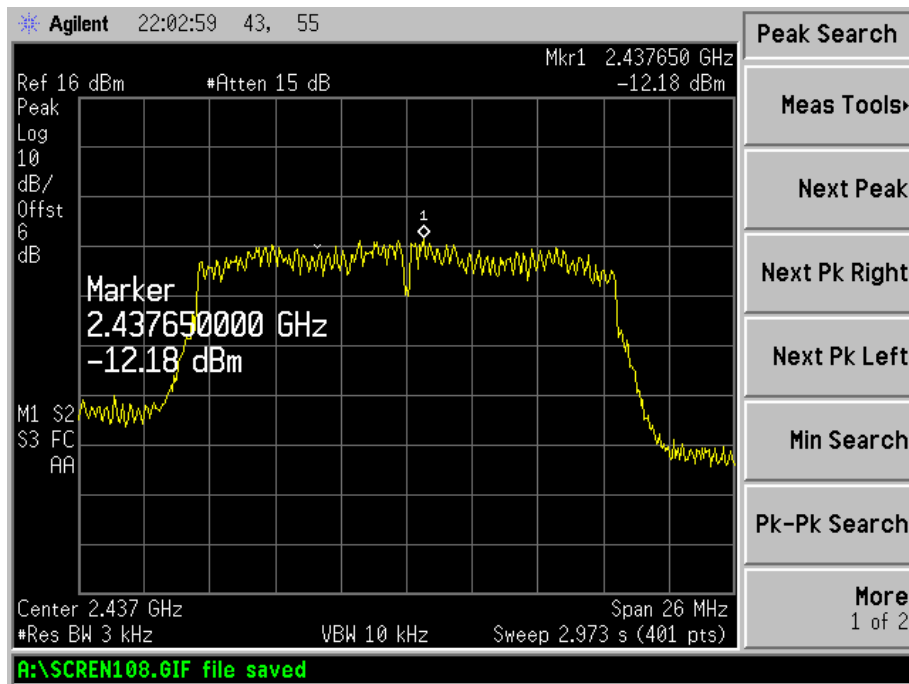
802.11b-High Channel



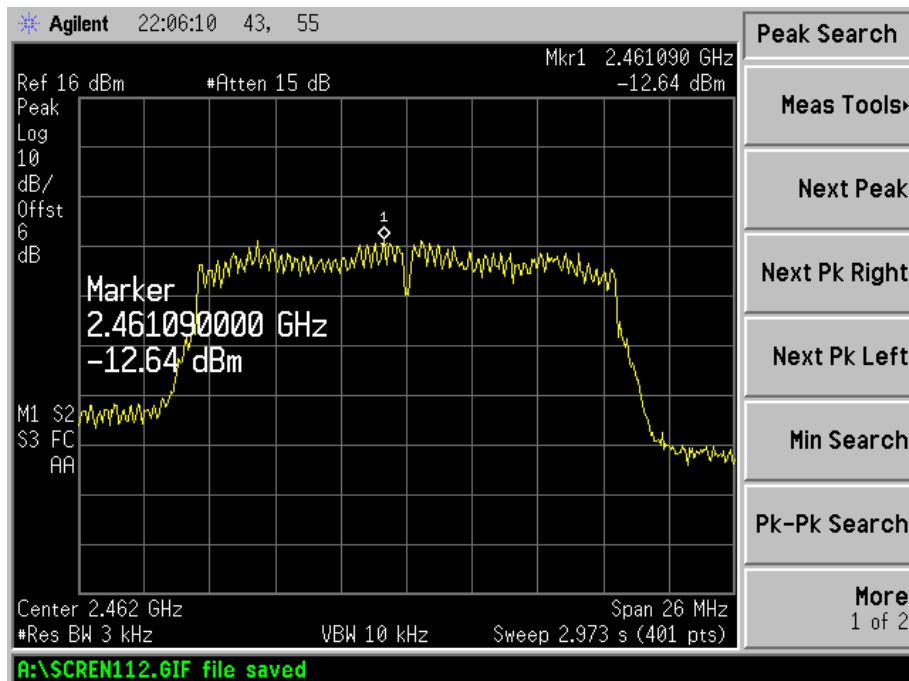
802.11g-Low Channel



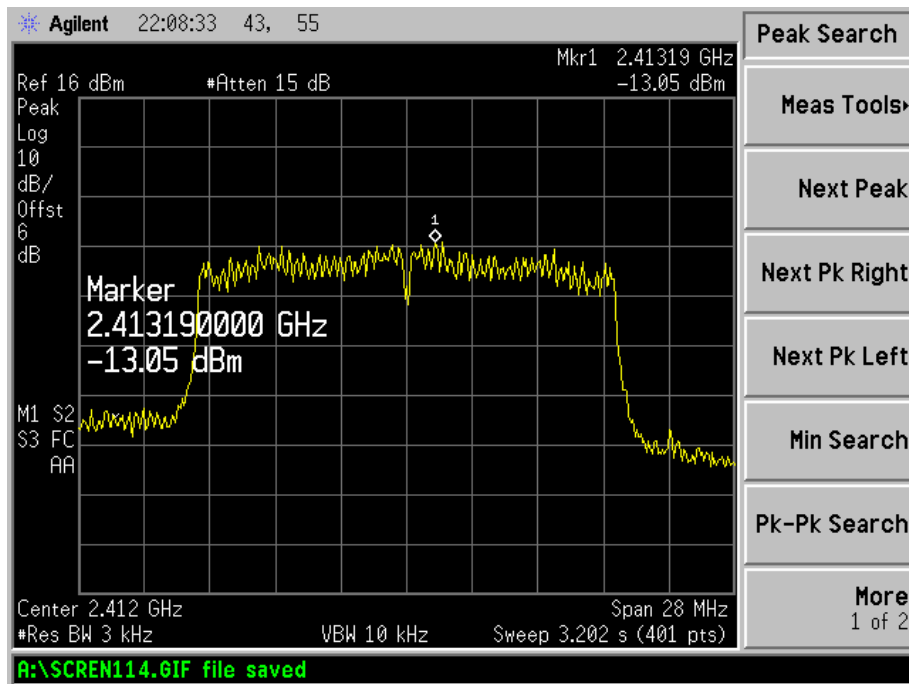
802.11g-Middle Channel



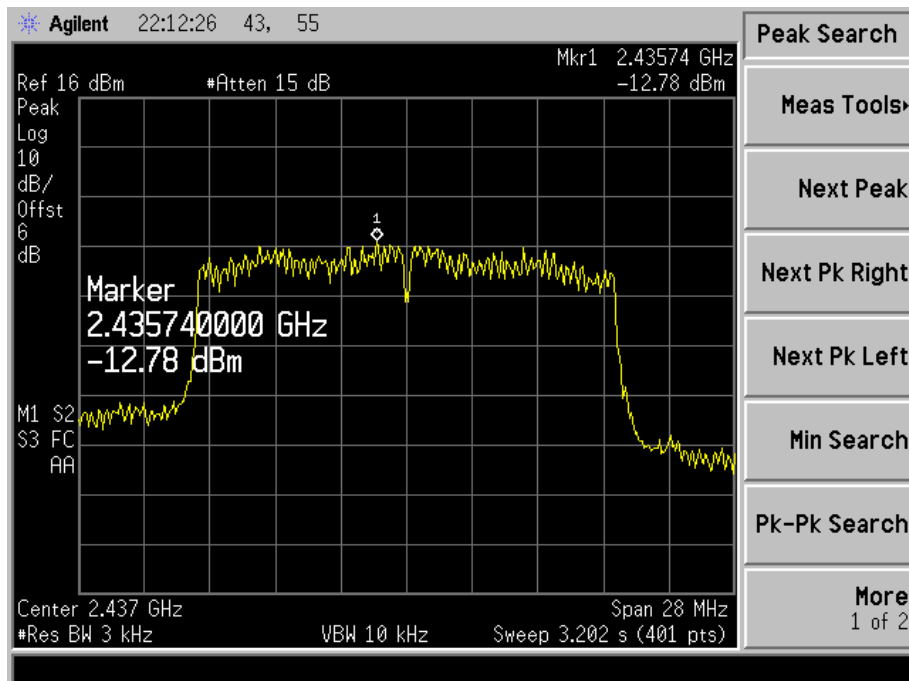
802.11g-High Channel



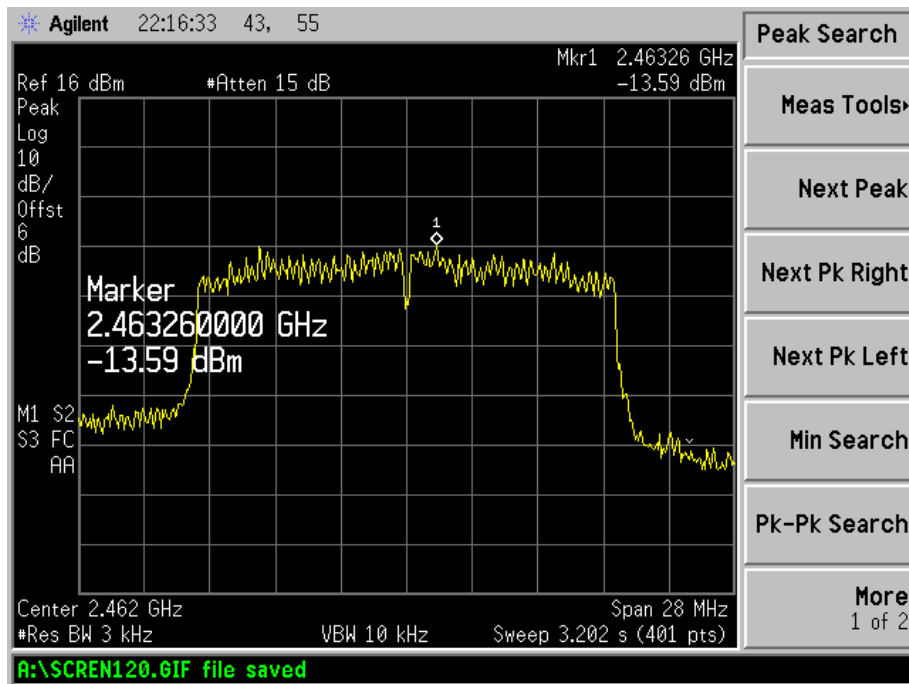
802.11n-HT20-Low Channel



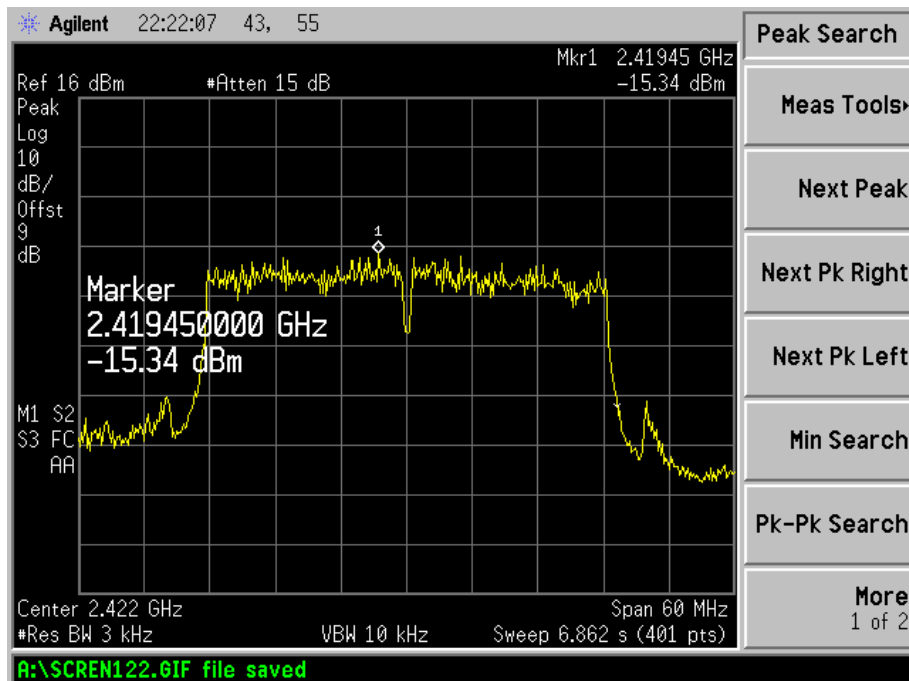
802.11n-HT20-Middle Channel



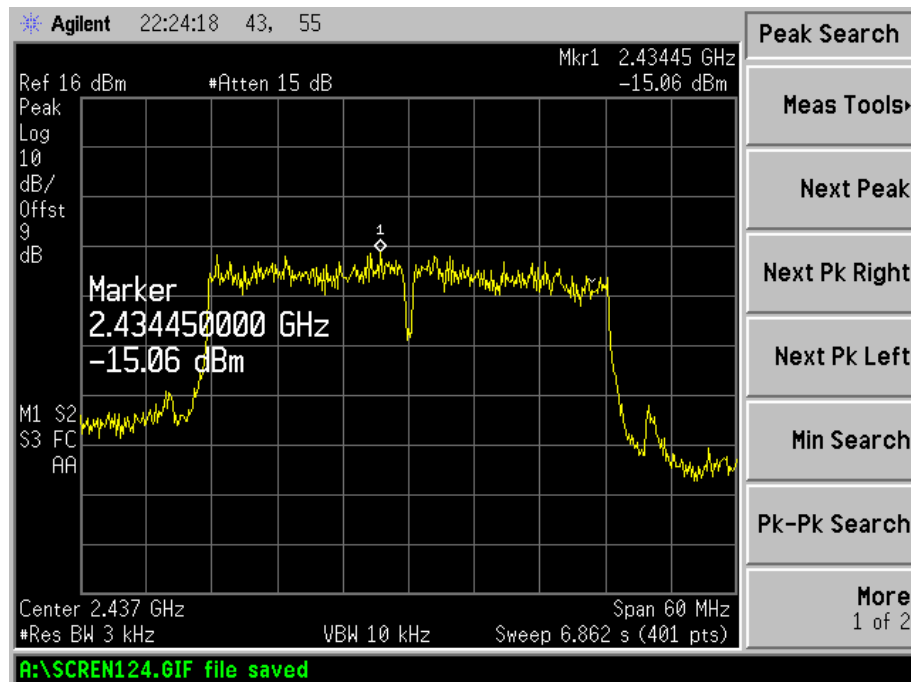
802.11n-HT20-High Channel



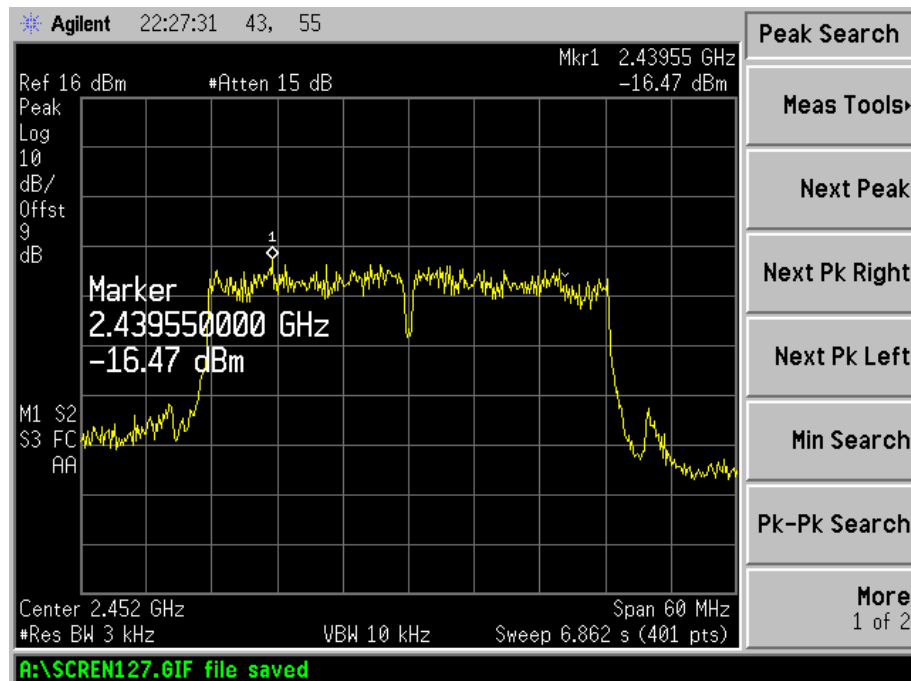
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



5. 6dB Bandwidth

5.1 Standard Applicable

According to 15.247(a)(2). Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2013-05-07	2014-05-06
Attenuator	ATTEN	ATS100-4-20	/	2013-05-07	2014-05-06

5.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW) ≥ 3 RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission..

5.4 Environmental Conditions

Temperature:	24° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

5.5 Summary of Test Results/Plots

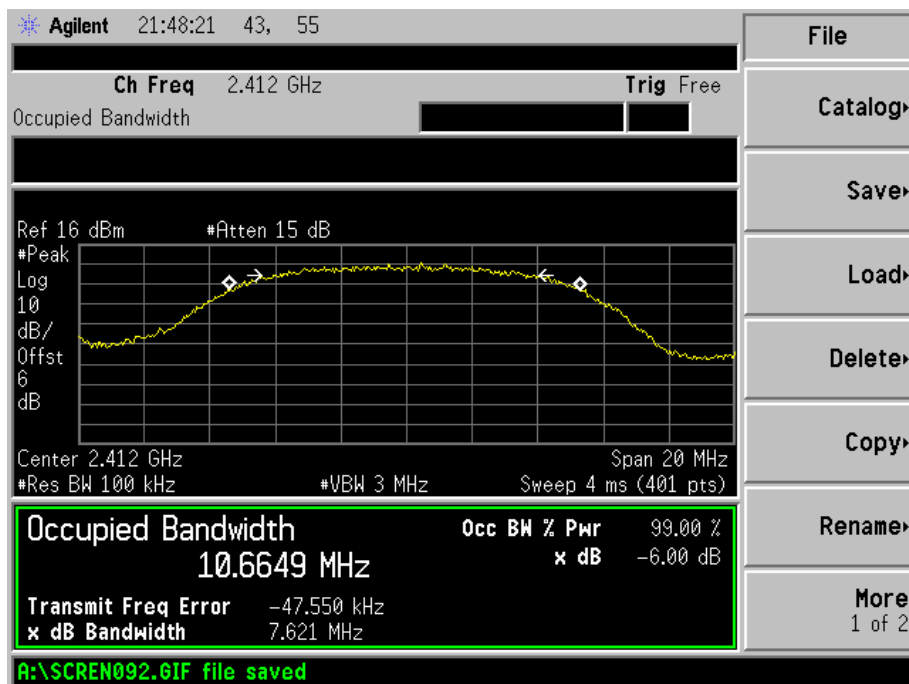
Test Mode	Test Channel MHz	6 dB Bandwidth Chain 0 (kHz)	6 dB Bandwidth Chain 1(kHz)	Limit kHz
802.11b	2412	7621	8236	500
	2437	8036	7750	500
	2462	7891	8168	500
802.11g	2412	15156	15122	500
	2437	15134	15083	500
	2462	15110	15110	500
802.11n-HT20	2412	16266	16353	500
	2437	16029	16046	500
	2462	15939	16023	500
802.11n-HT40	2422	36423	36112	500
	2437	36395	35938	500
	2452	36374	36341	500

Note: The EUT will be simultaneous transmission at the chain 0 and chain 1 for the mode of 802.11n HT20 or HT40, transmission only single at chain 0 or chain 1 for 802.11b/g;

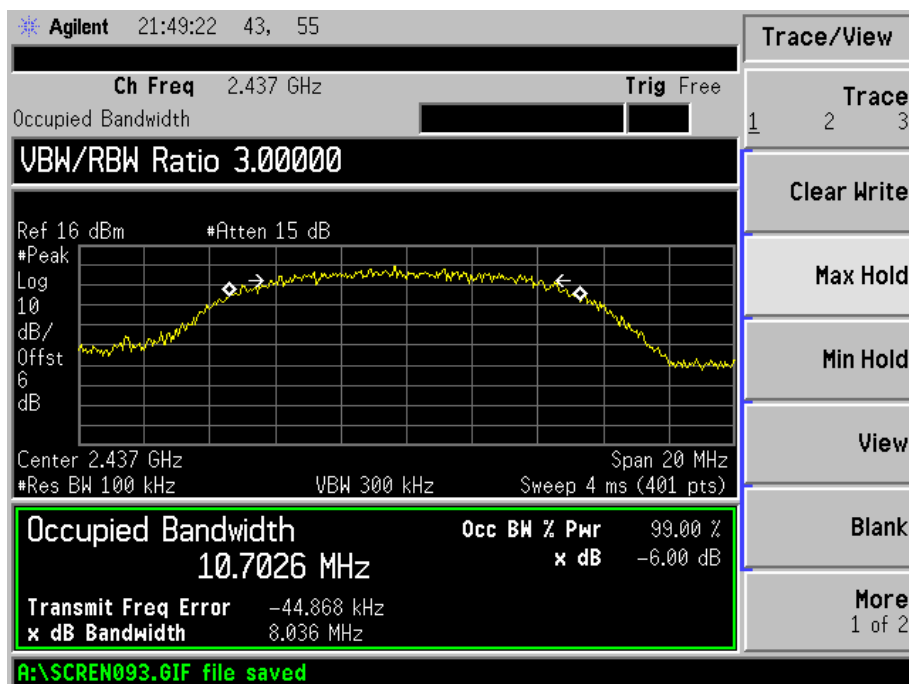
Please refer to the following test plots:

For chain 0

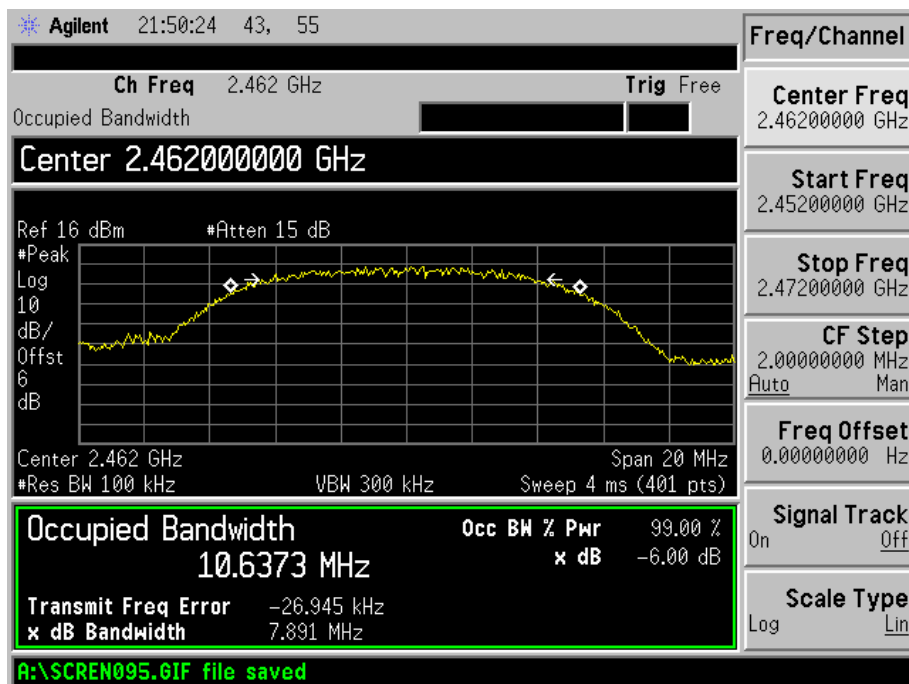
802.11b-Low Channel



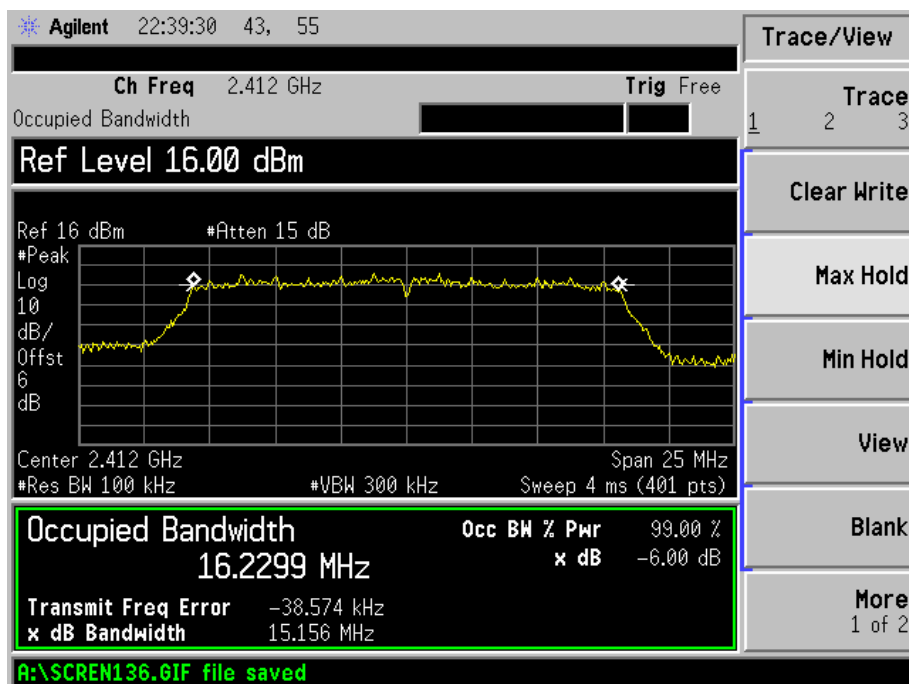
802.11b-Middle Channel



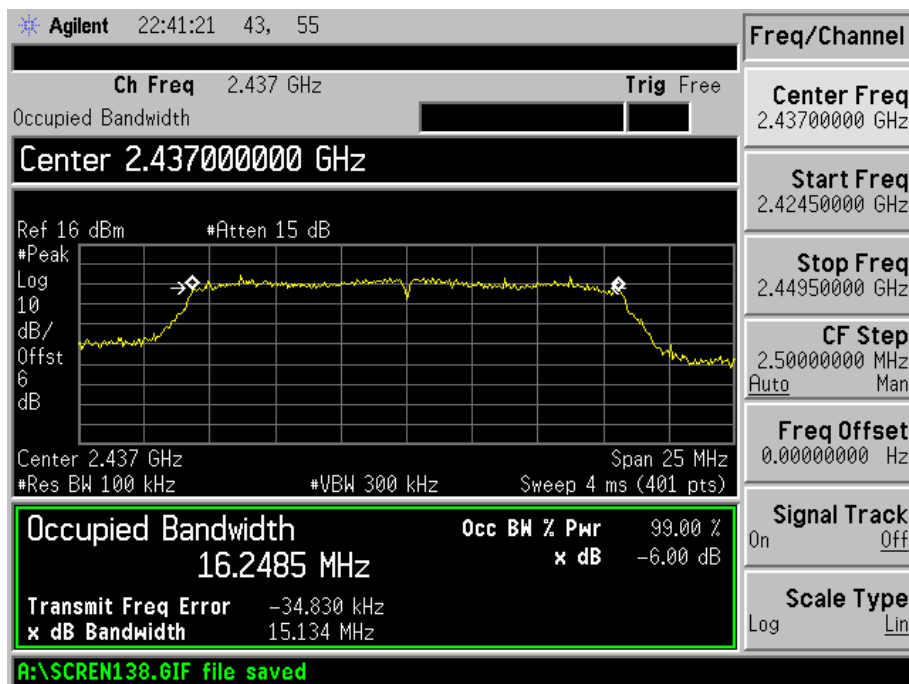
802.11b-High Channel



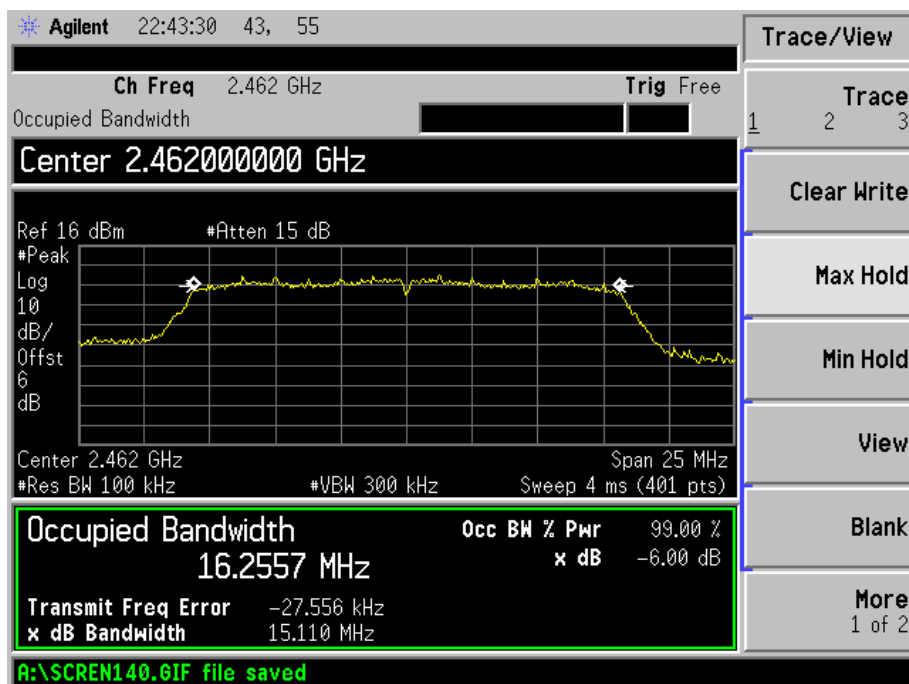
802.11g-Low Channel



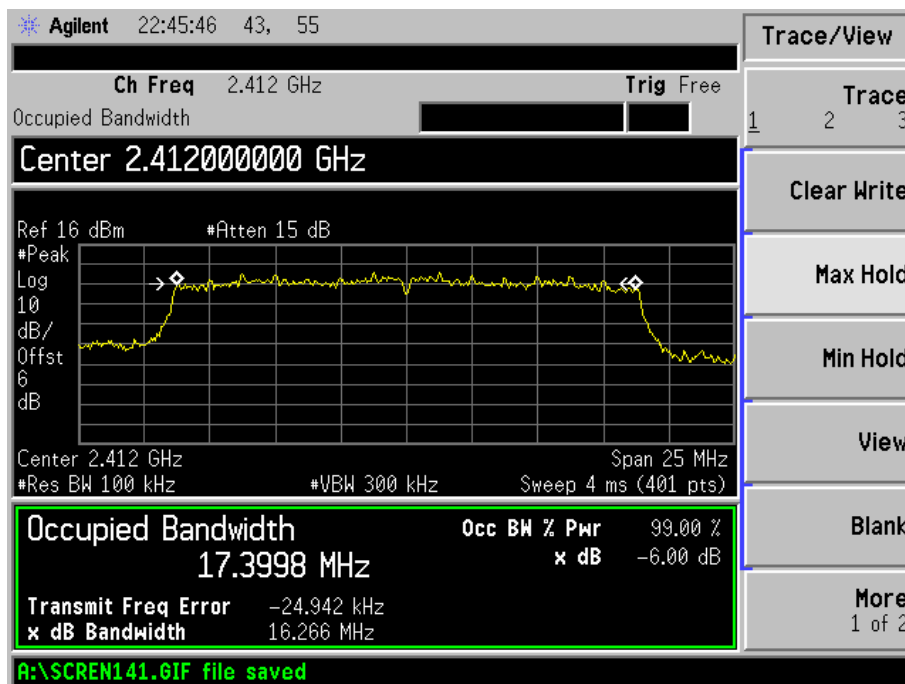
802.11g-Middle Channel



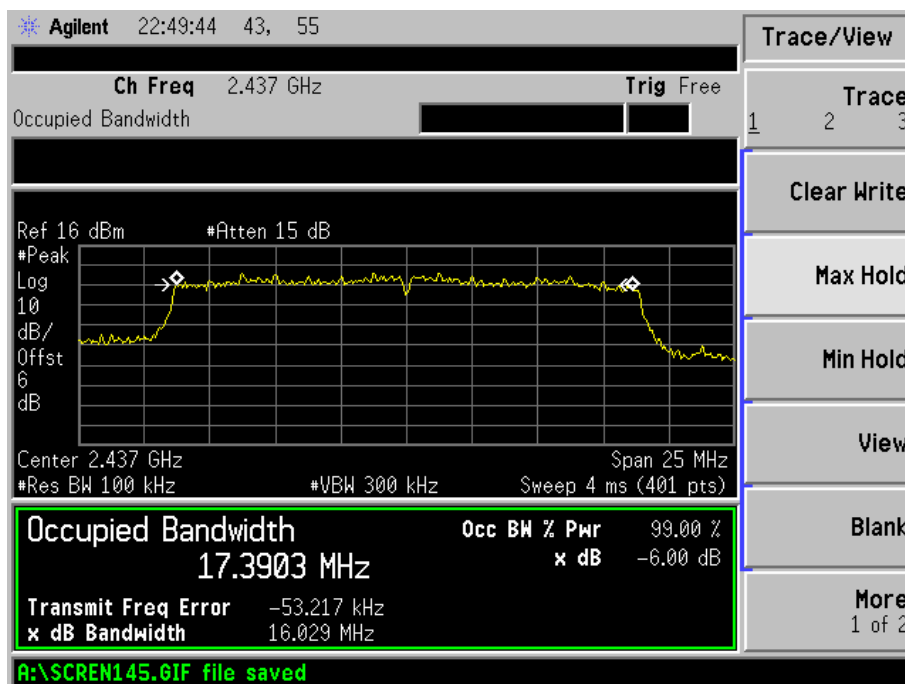
802.11g-High Channel



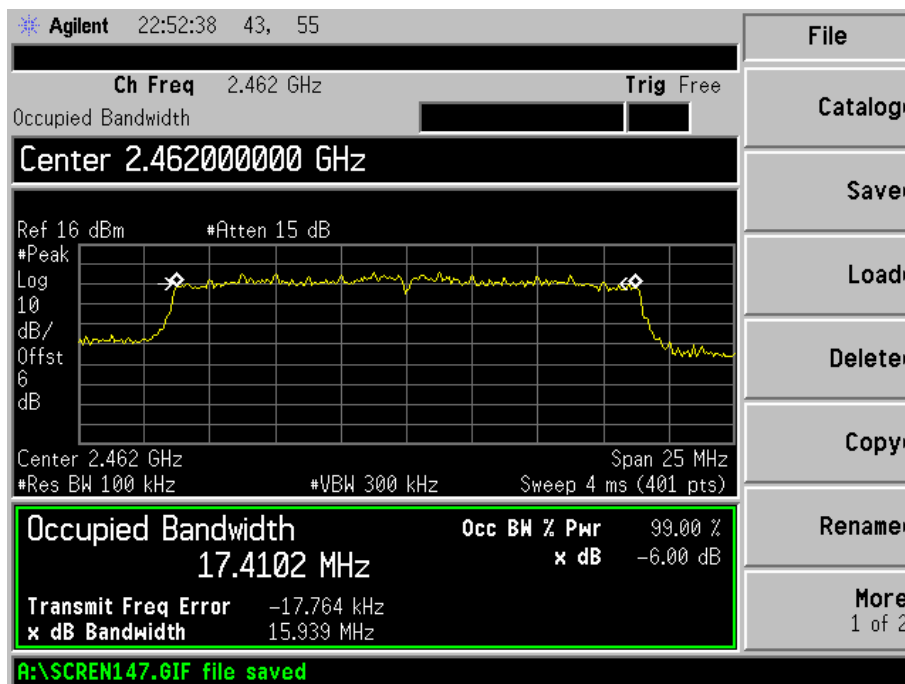
802.11n-HT20-Low Channel



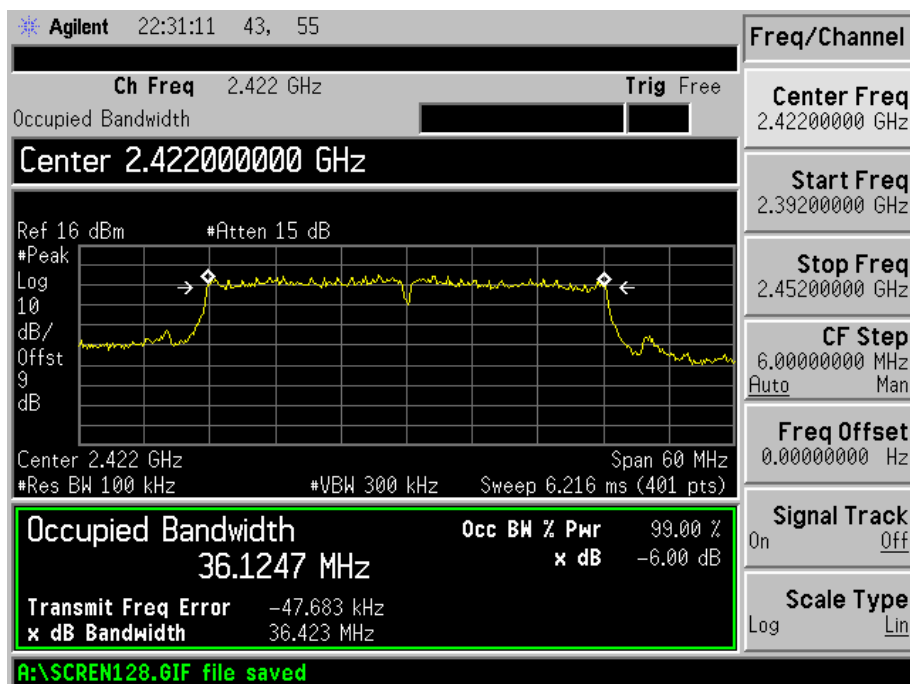
802.11n-HT20-Middle Channel



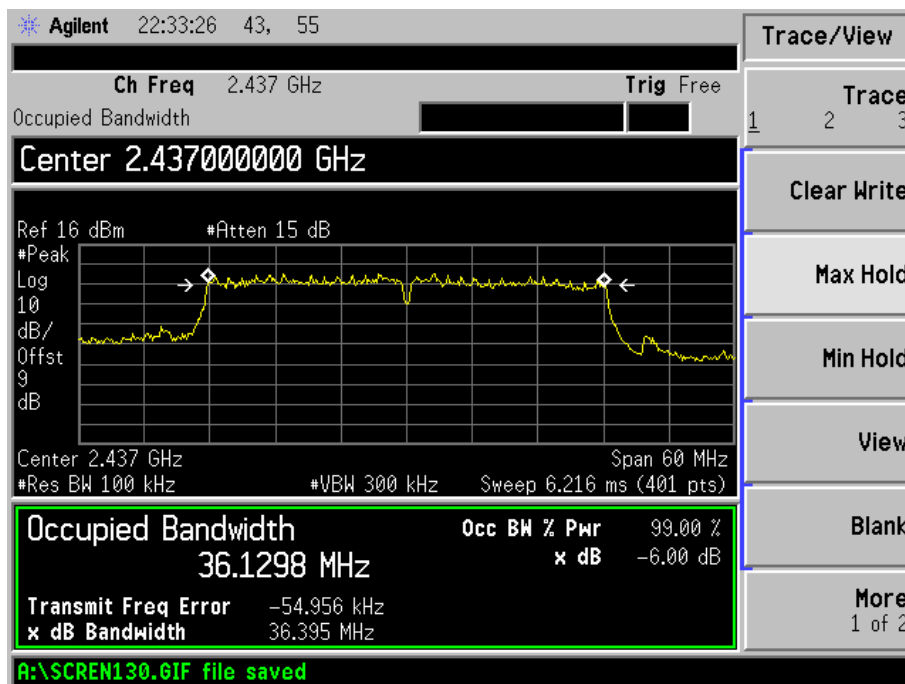
802.11n-HT20-High Channel



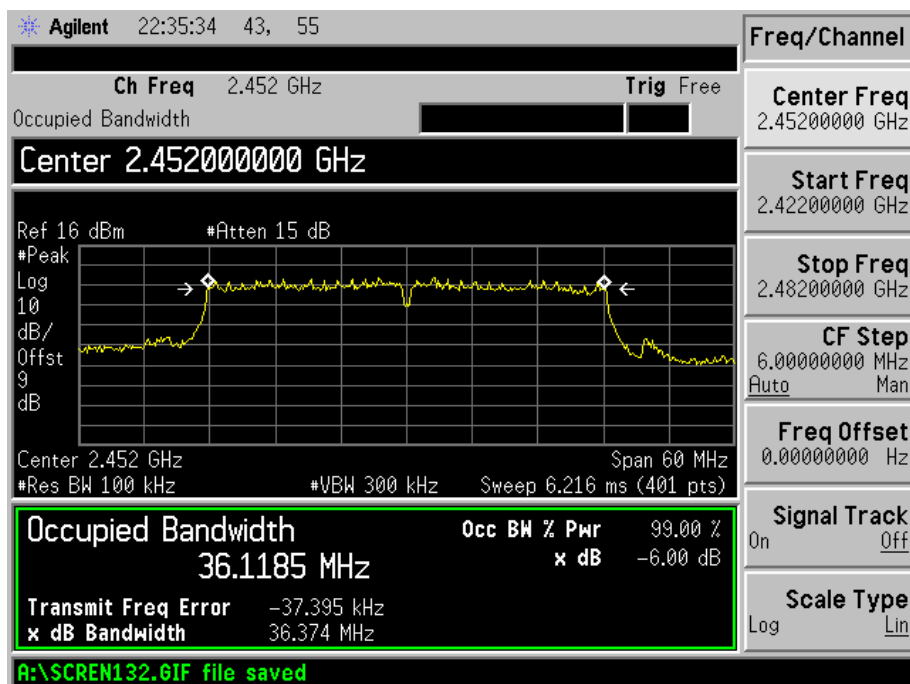
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel

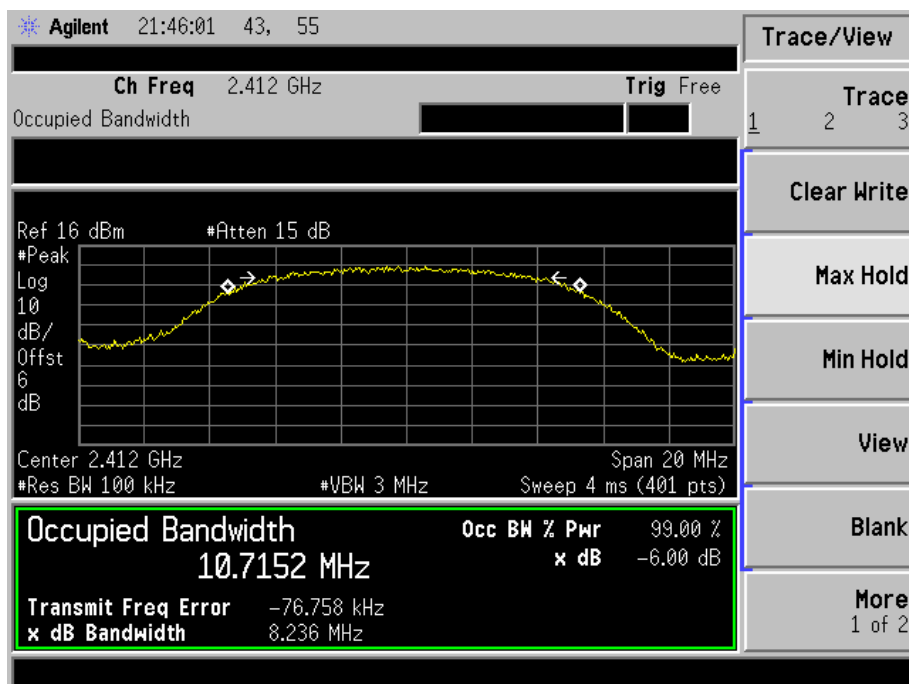


802.11n-HT40-High Channel

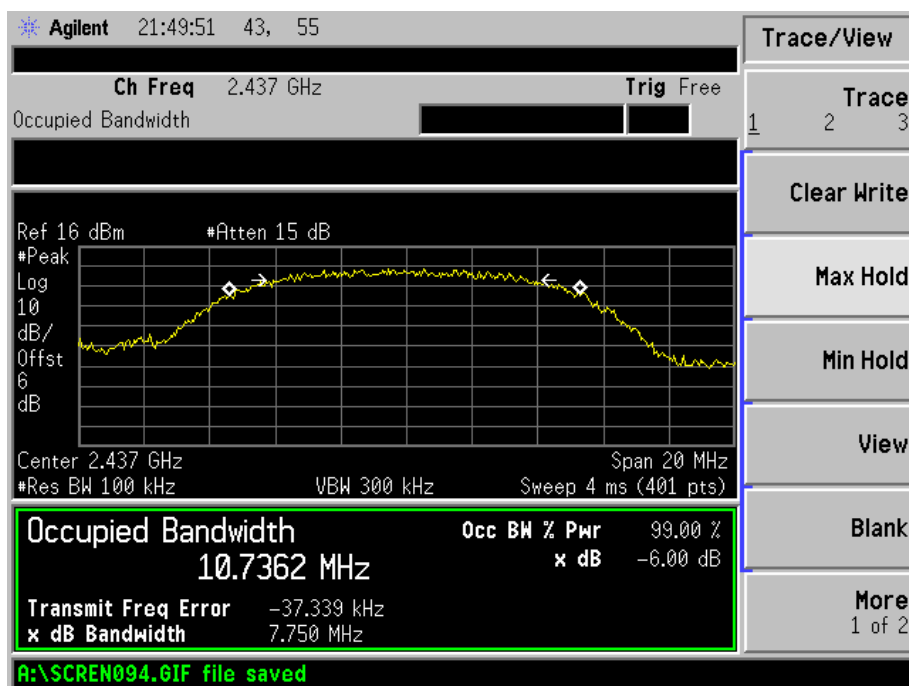


For chain 1

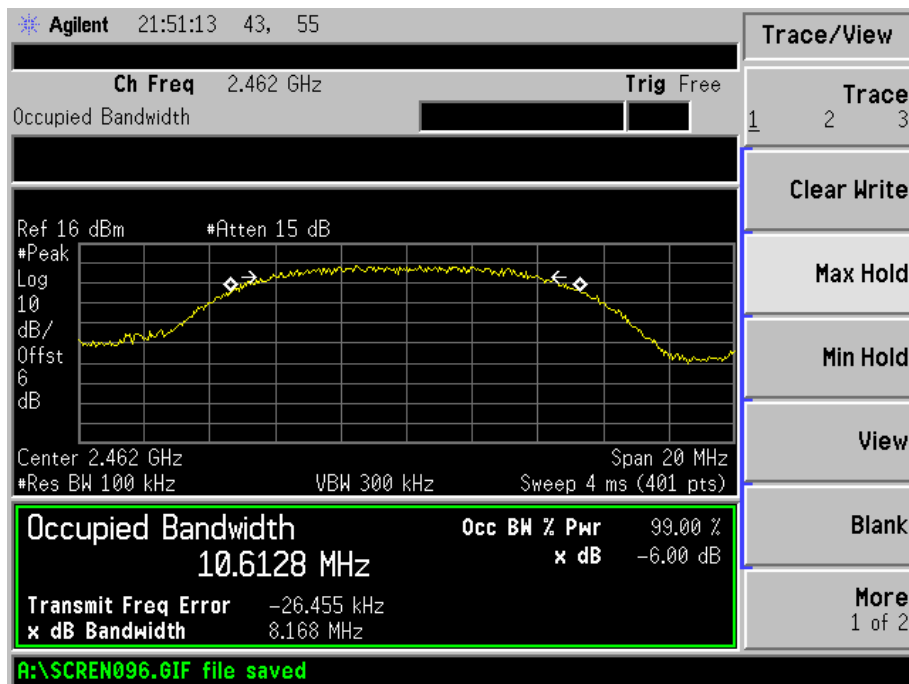
802.11b-Low Channel



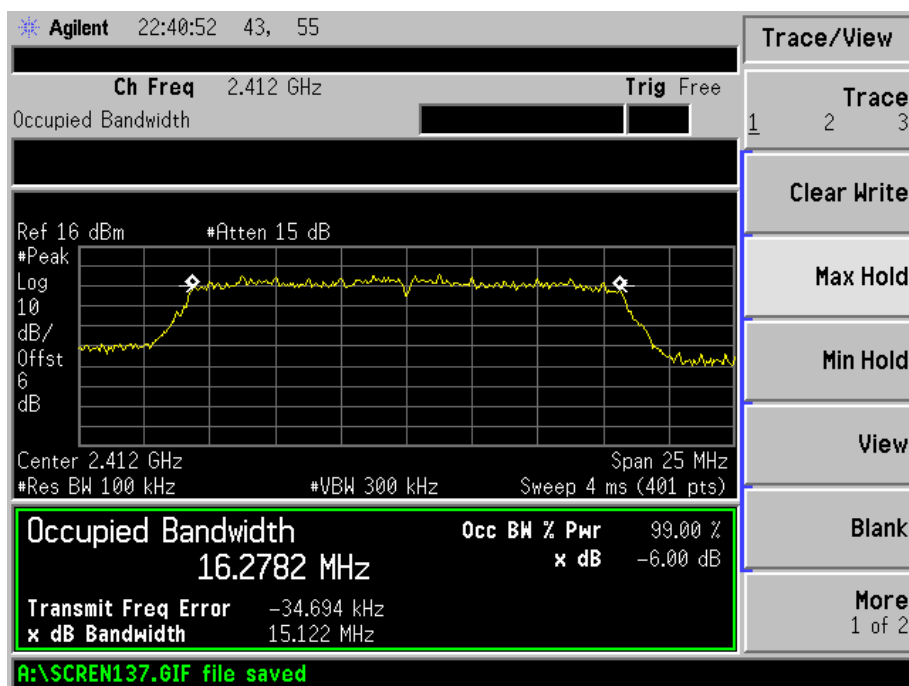
802.11b-Middle Channel



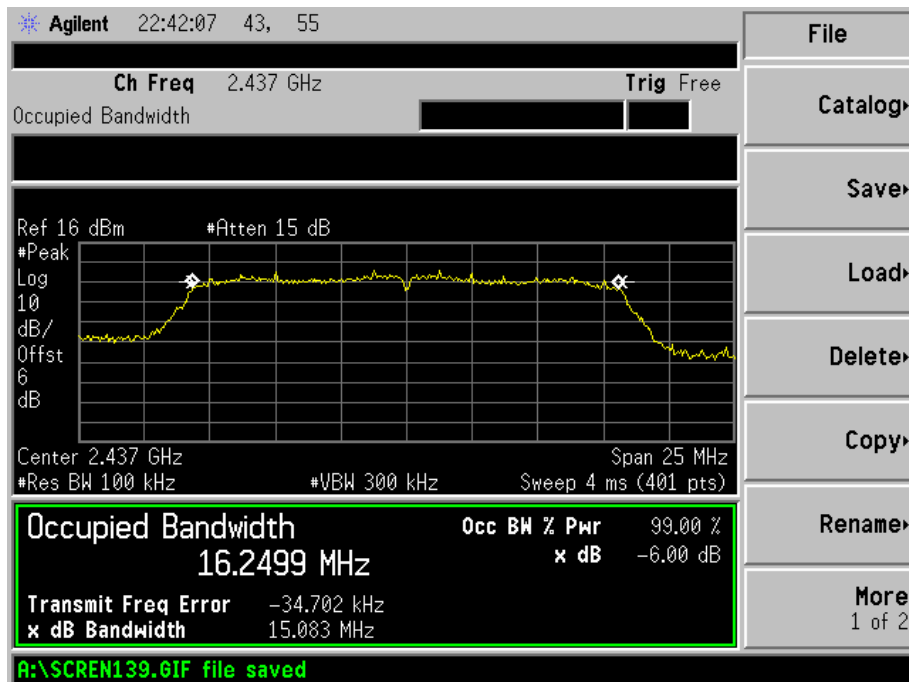
802.11b-High Channel



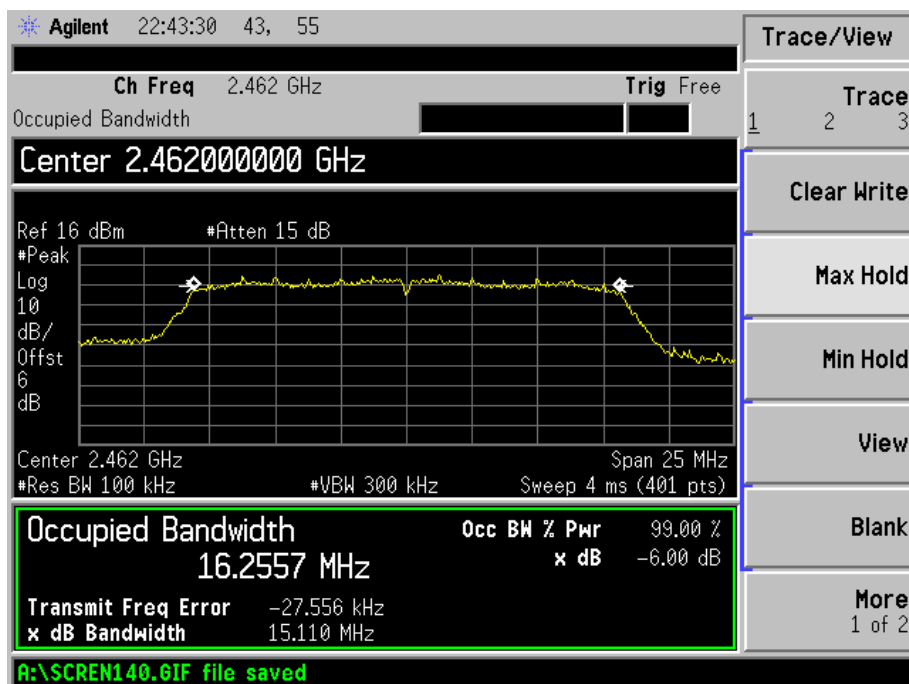
802.11g-Low Channel



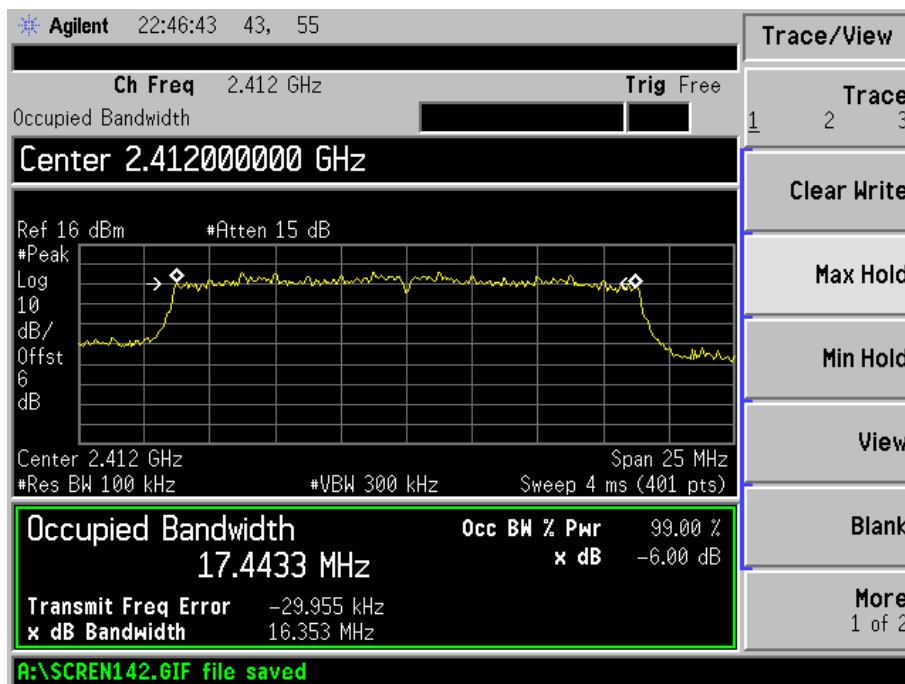
802.11g-Middle Channel



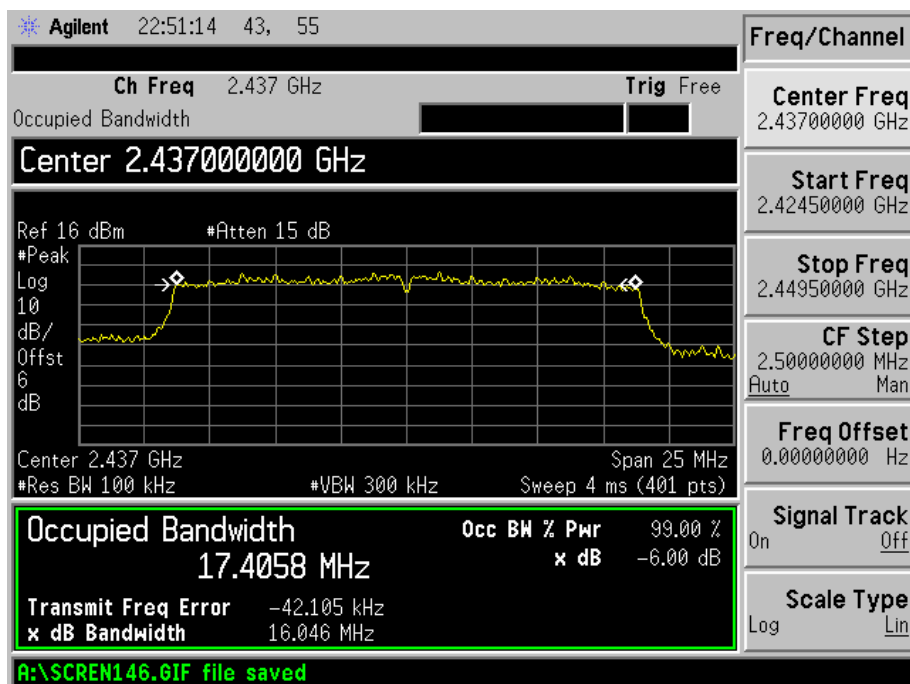
802.11g-High Channel



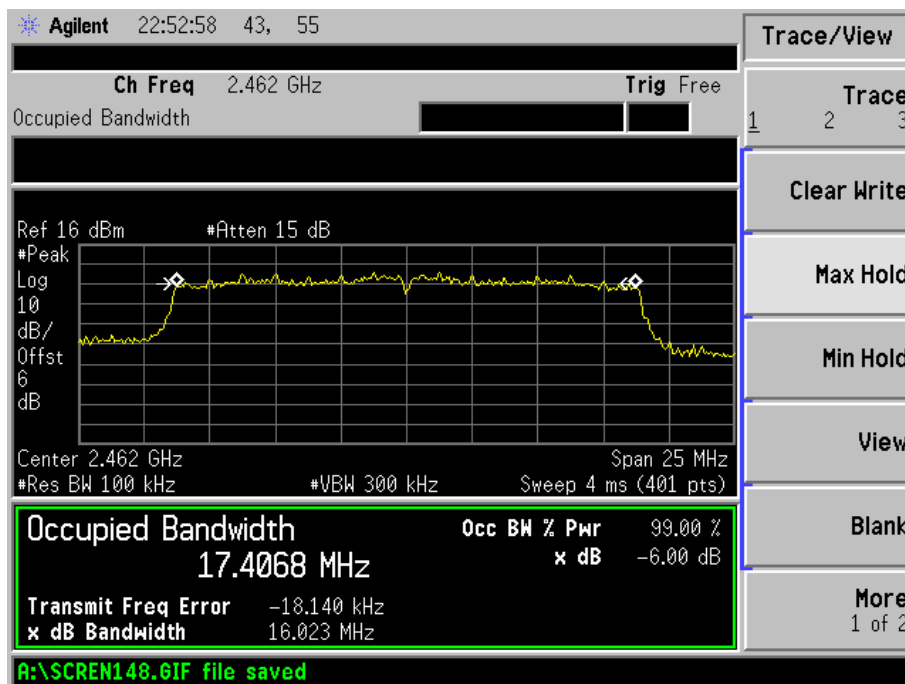
802.11n-HT20-Low Channel



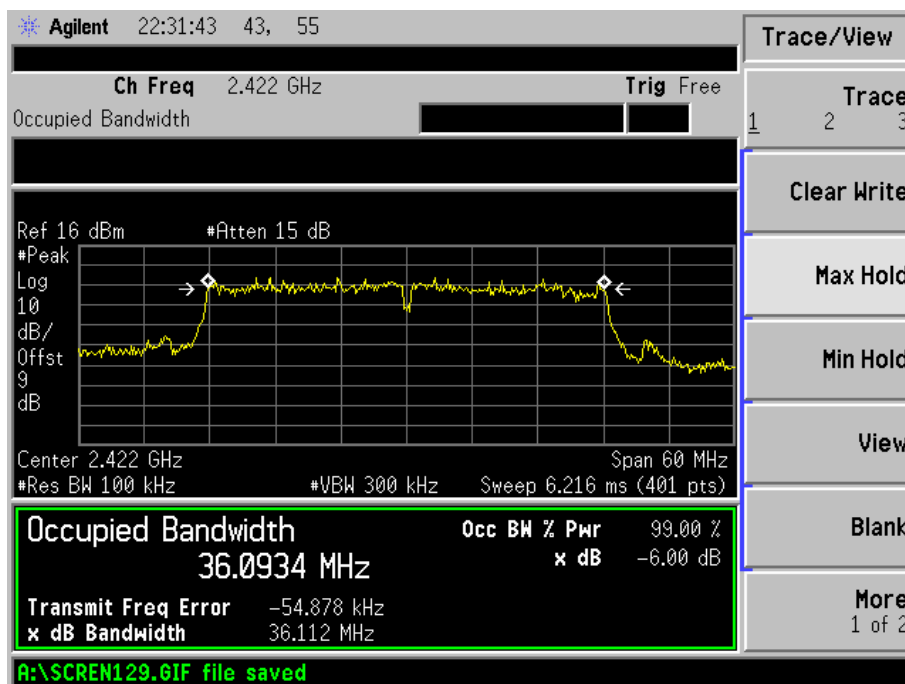
802.11n-HT20-Middle Channel



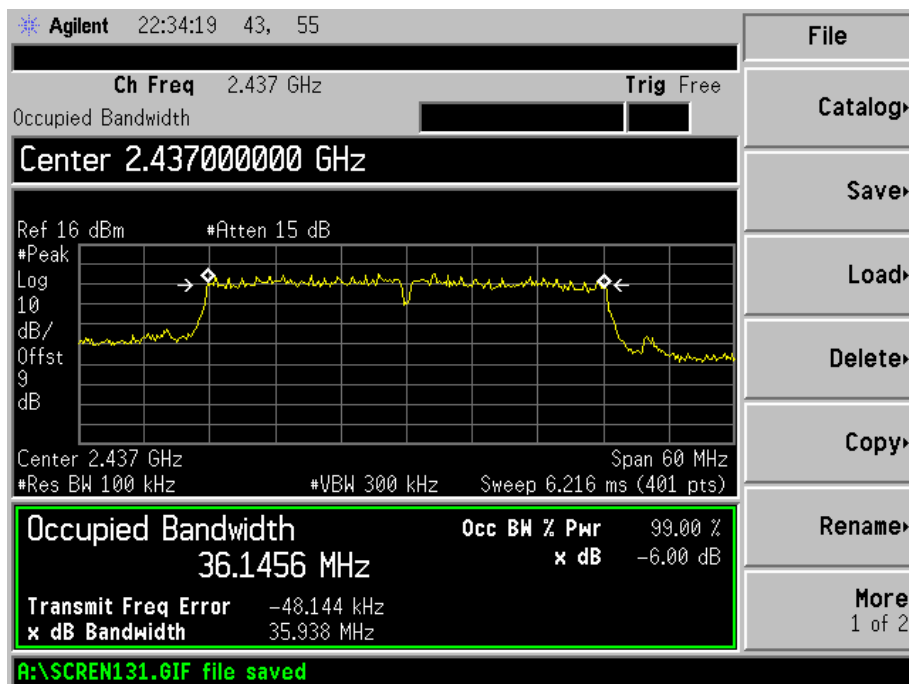
802.11n-HT20-High Channel



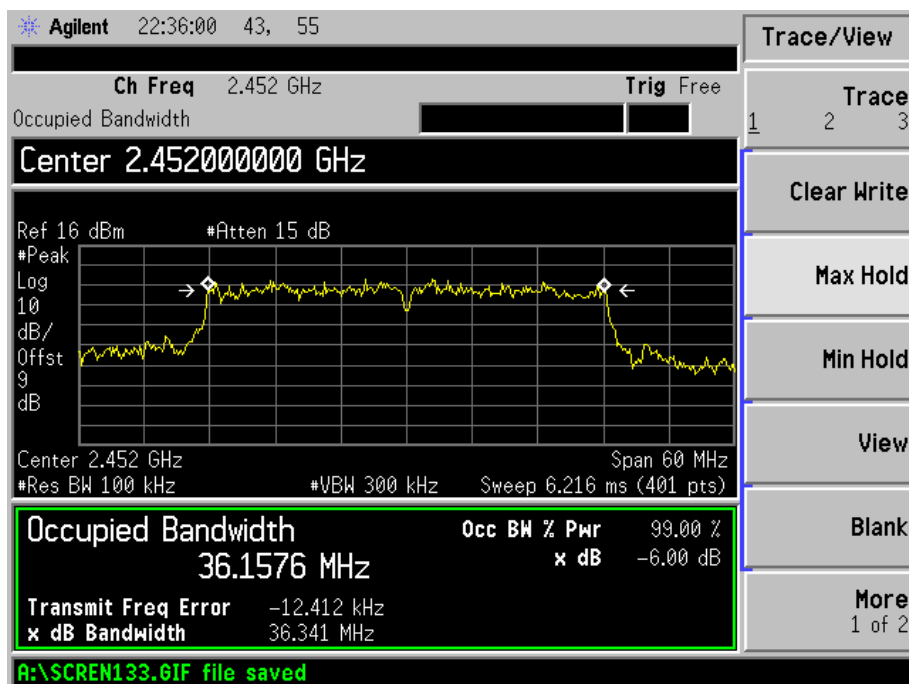
802.11n-HT40-Low Channel



802.11n-HT40-Middle Channel



802.11n-HT40-High Channel



6. RF Output Power

6.1 Standard Applicable

According to 15.247(b)(3). For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

6.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	Agilent	E4402B	US41192821	2013-05-07	2014-05-06
Attenuator	ATTEN	ATS100-4-20	/	2013-05-07	2014-05-06

6.3 Test Procedure

According to section 15.247(b)-power output of the KDB-558074 D01 v03r01, 8.1.2 Option 2 (channel integration method) this procedure should only be used when the maximum available RBW of the spectrum/signal analyzer is less than the DTS bandwidth.

1. Set the RBW = 1 MHz.
2. Set the VBW ≥ 3 RBW
3. Set the span $\geq 1.5 \times$ DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.

6.4 Environmental Conditions

Temperature:	21° C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

6.5 Summary of Test Results/Plots

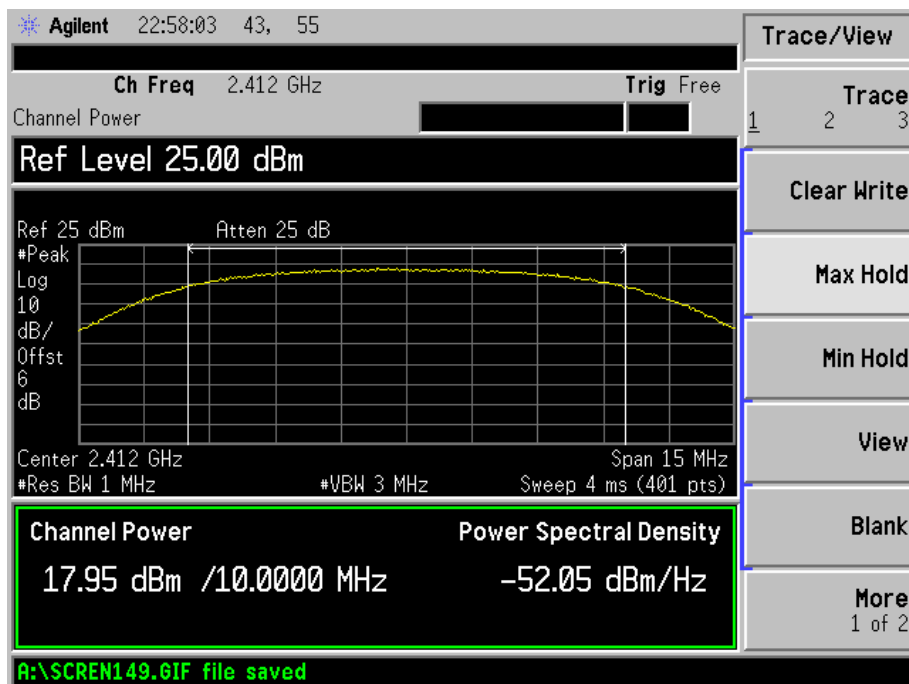
Test Mode	Frequency MHz	Reading Chain 0 dBm	Reading Chain 1 dBm	Output Power Chain 0 (mW)	Output Power Chain 1 (mW)	Total Power mW	Limit mW
802.11b 1Mbps	2412	17.95	17.99	62.37	62.95	/	1000
	2437	18.15	17.92	65.31	61.94	/	1000
	2462	18.05	18.00	63.83	63.10	/	1000
802.11b 11Mbps	2412	17.97	17.99	62.66	62.95	/	1000
	2437	17.97	18.04	62.66	63.68	/	1000
	2462	18.21	18.18	66.22	65.77	/	1000
802.11g 6Mbps	2412	15.45	15.46	35.08	35.16	/	1000
	2437	15.13	15.56	32.58	35.97	/	1000
	2462	15.58	15.17	36.14	32.89	/	1000
802.11g 54Mbps	2412	15.31	15.53	33.96	35.73	/	1000
	2437	15.02	15.72	31.77	37.33	/	1000
	2462	15.50	14.99	35.48	31.55	/	1000
802.11n HT20 MCS0	2412	12.24	12.57	16.75	18.07	34.82	1000
	2437	13.19	13.11	20.84	20.46	41.31	1000
	2462	13.22	13.20	20.99	20.89	41.88	1000
802.11n HT20 MCS15	2412	12.61	12.58	18.24	18.11	36.35	1000
	2437	13.61	13.12	22.96	20.51	43.47	1000
	2462	13.00	13.34	19.95	21.58	41.53	1000
802.11n HT40 MCS0	2422	11.31	11.58	13.52	14.39	27.91	1000
	2437	12.35	12.18	17.18	16.52	33.70	1000
	2452	11.70	11.30	14.79	13.49	28.28	1000
802.11n HT40 MCS15	2422	11.55	11.75	14.29	14.96	29.25	1000
	2437	12.14	12.05	16.37	16.03	32.40	1000
	2452	11.16	11.33	13.06	13.58	26.64	1000

Note: The EUT will be simultaneous transmission at the chain 0 and chain 1 for the mode of 802.11n HT20 or HT40, transmission only single at chain 0 or chain 1 for 802.11b/g;

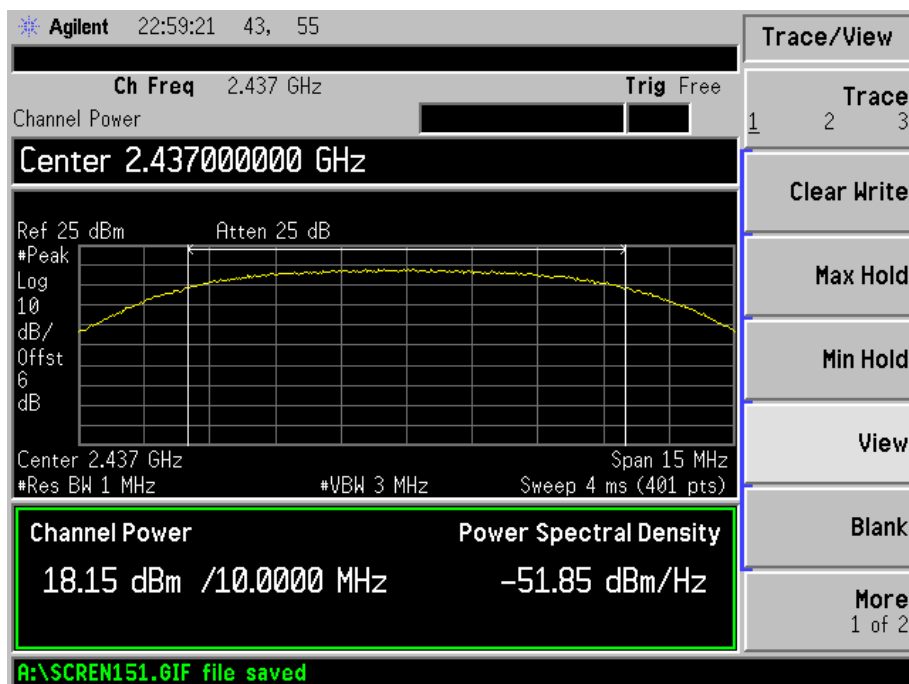
Please refer to the following test plots:

For chain 0

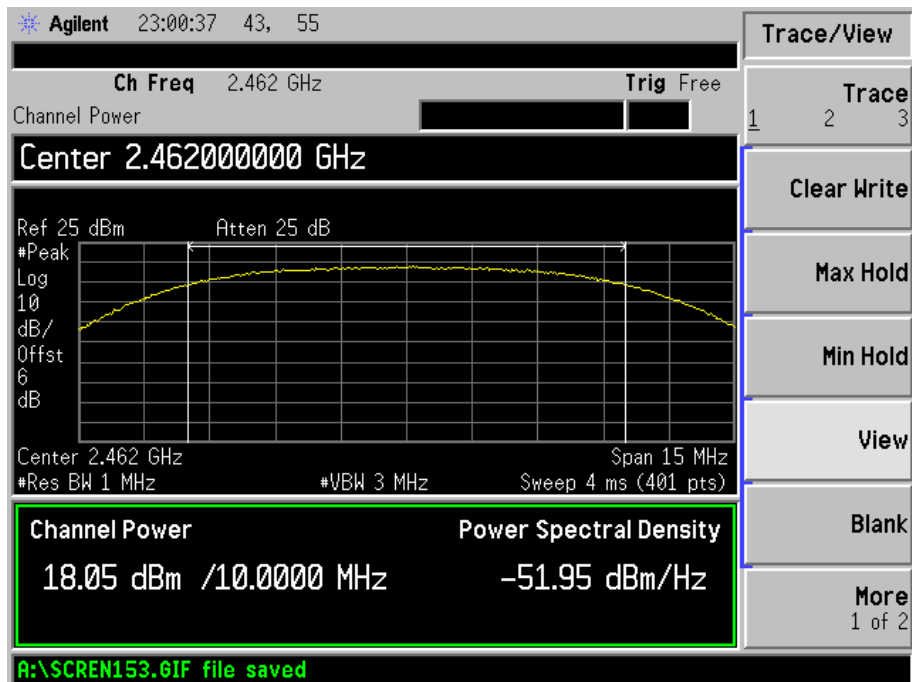
802.11b-1Mbps-Low Channel



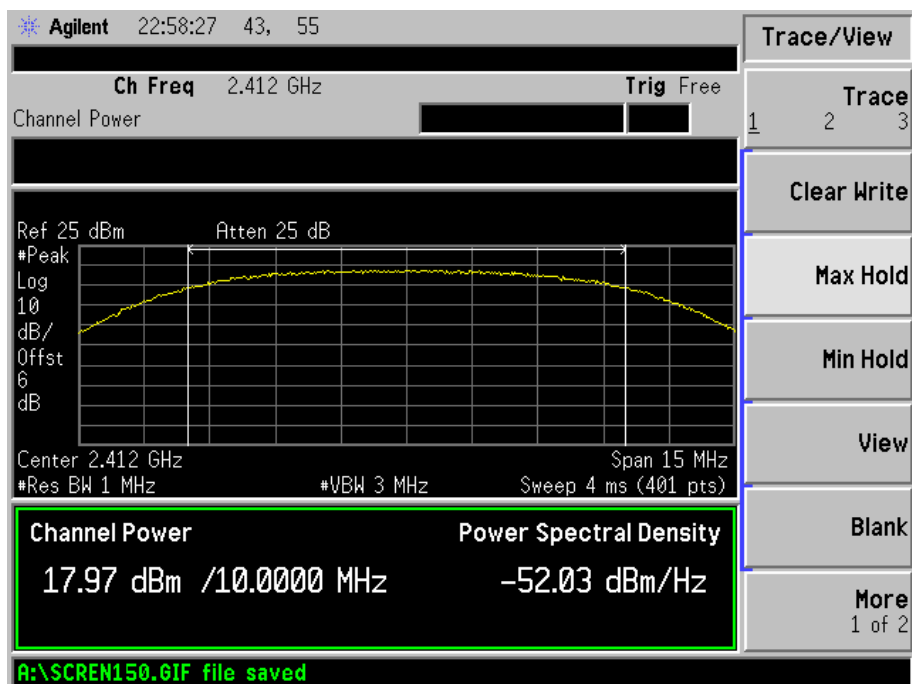
802.11b-1Mbps-Middle Channel



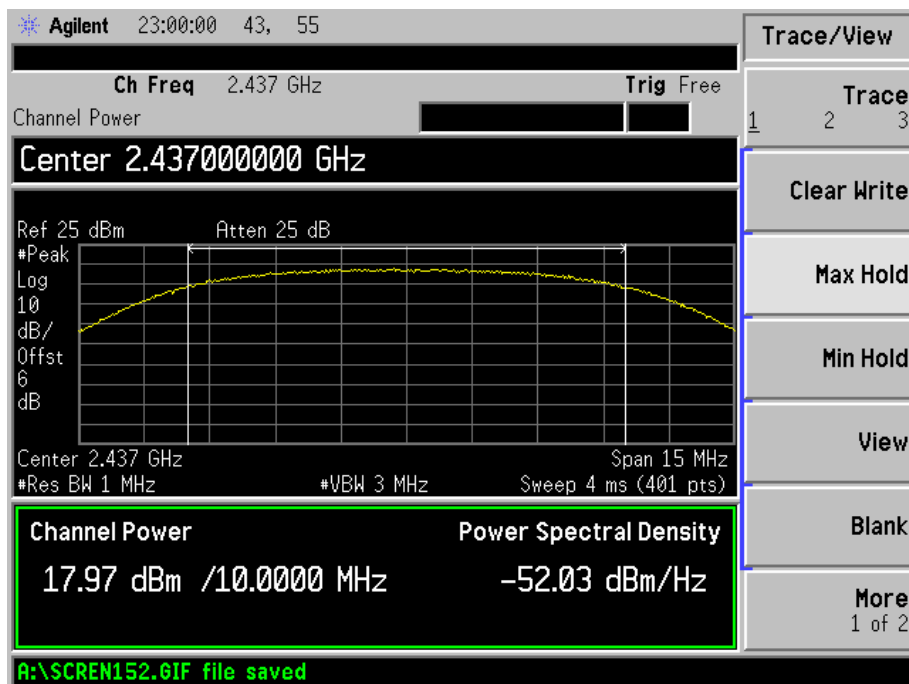
802.11b-1Mbps-High Channel



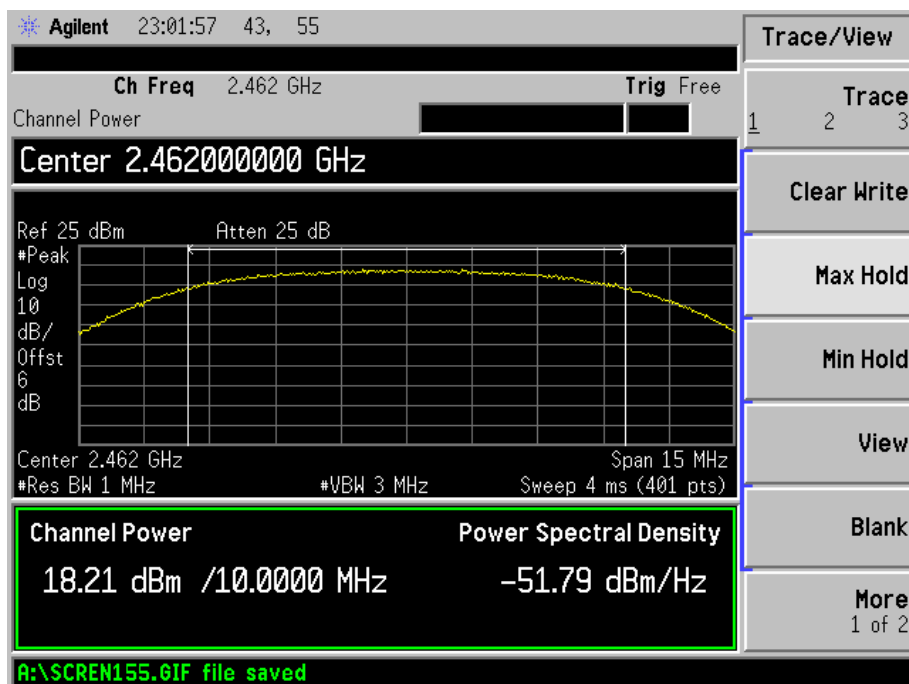
802.11b-11Mbps-Low Channel



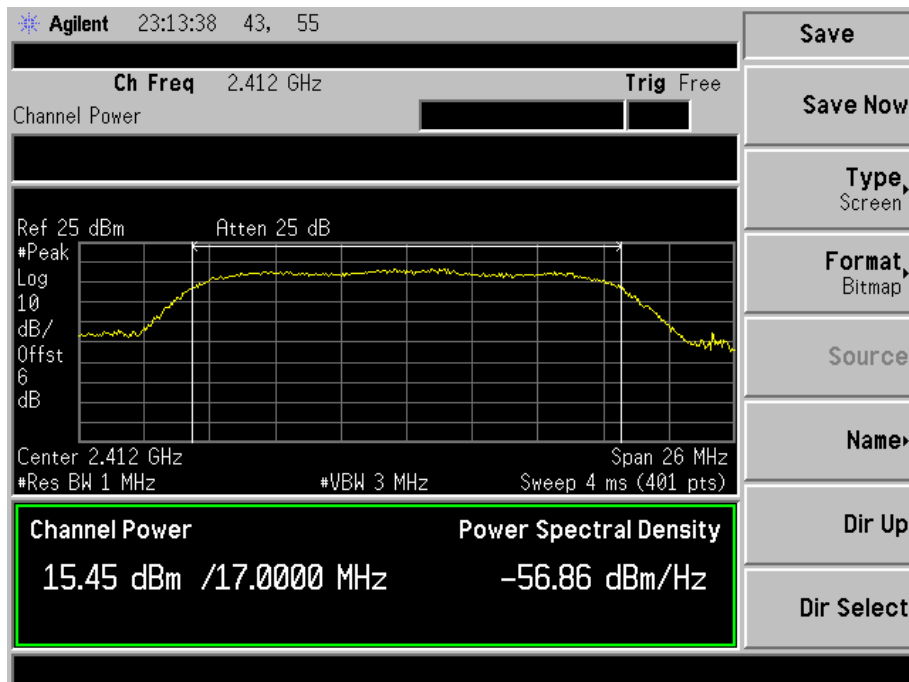
802.11b-11Mbps-Middle Channel



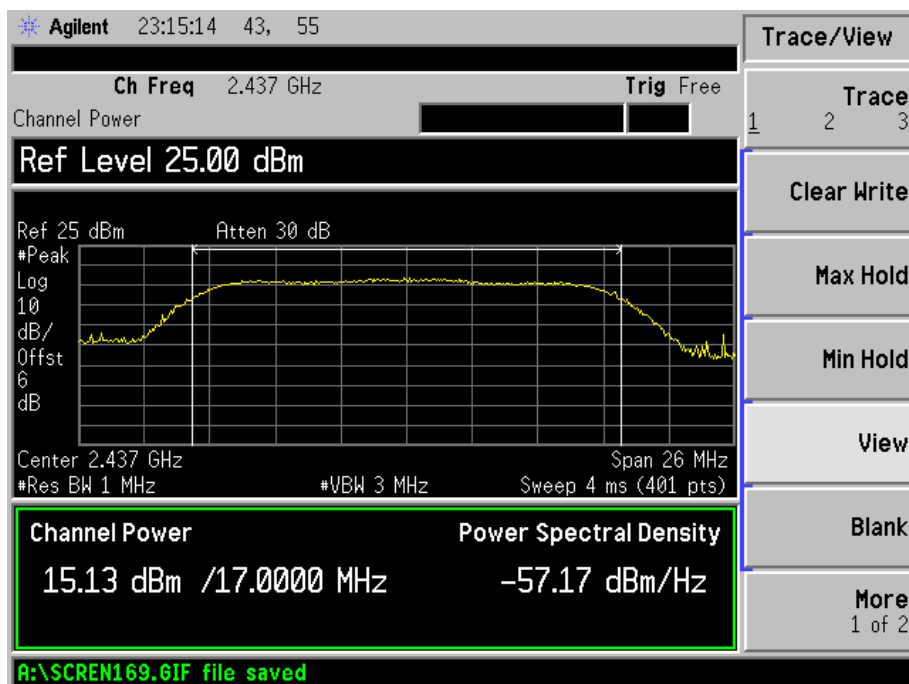
802.11b-11Mbps-High Channel



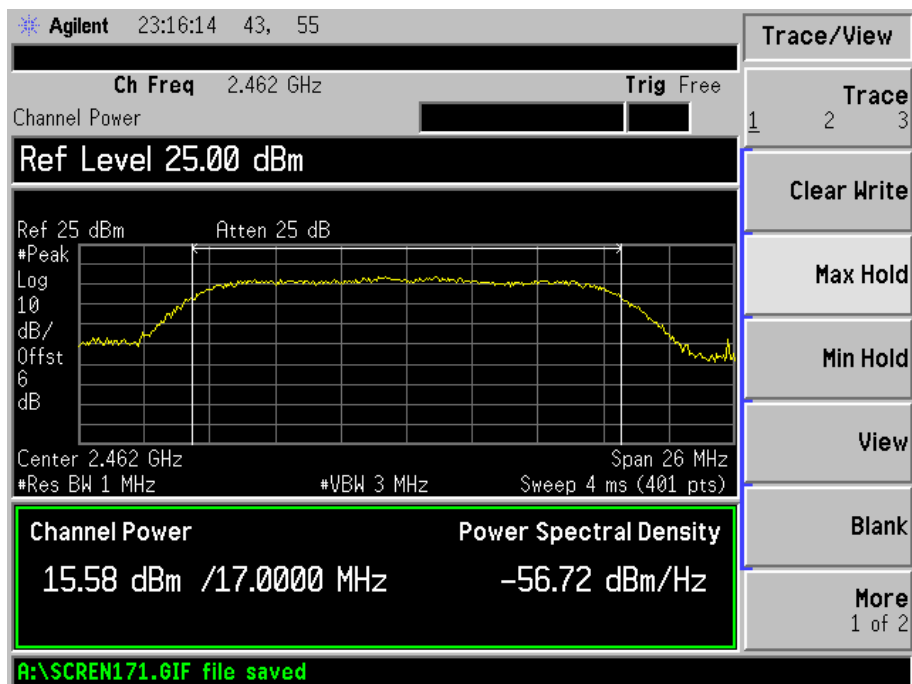
802.11g-6Mbps-Low Channel



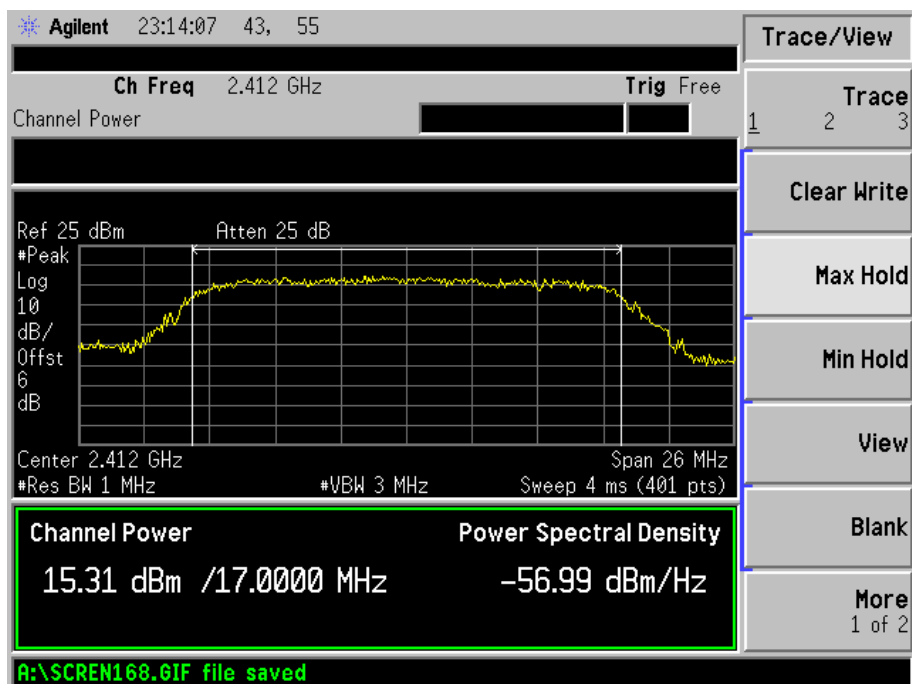
802.11g-6Mbps-Middle Channel



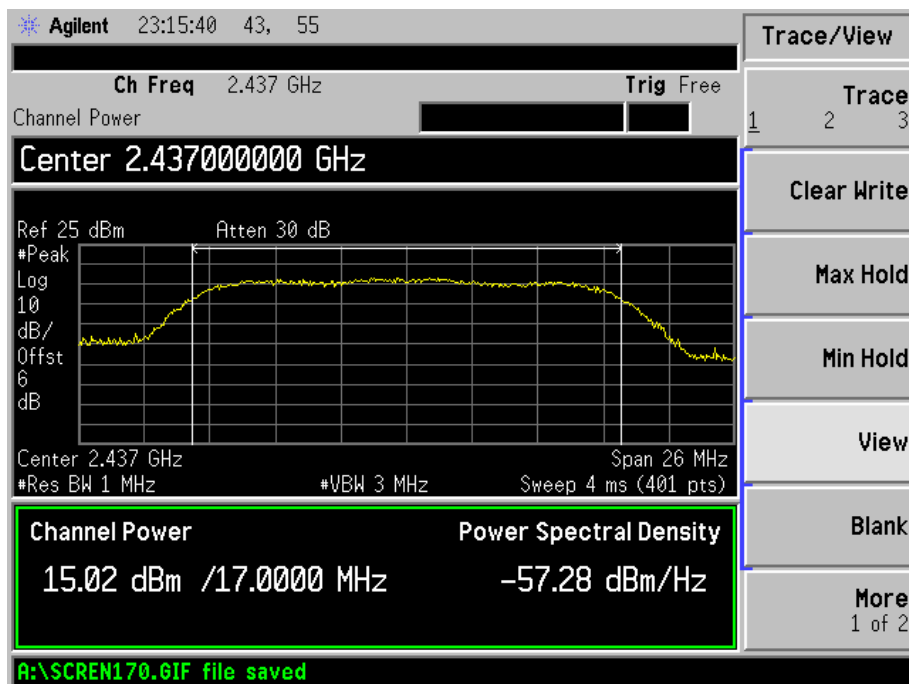
802.11g-6Mbps-High Channel



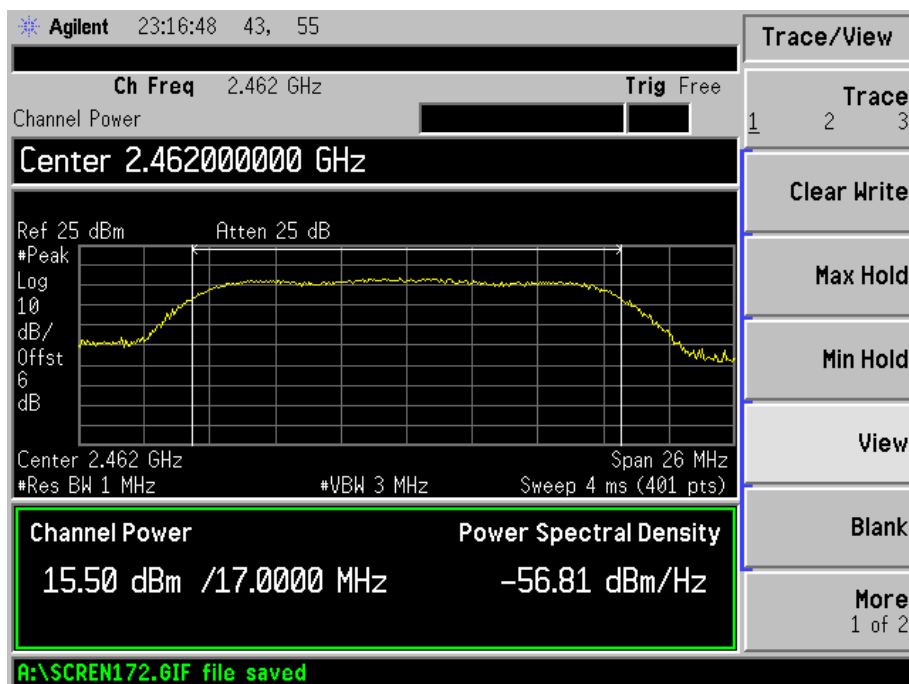
802.11g-54Mbps-Low Channel



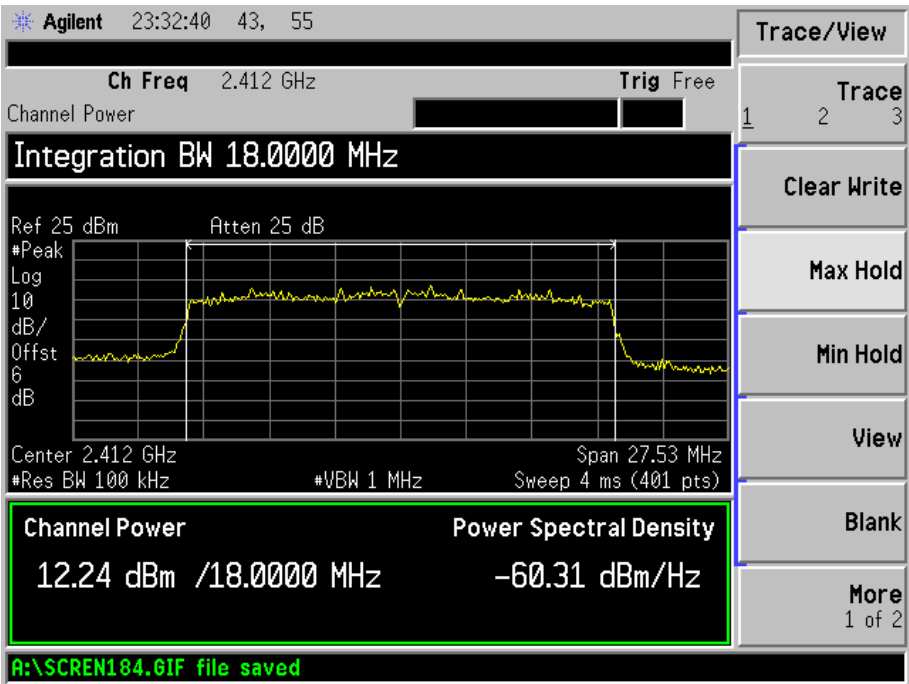
802.11g-54Mbps-Middle Channel



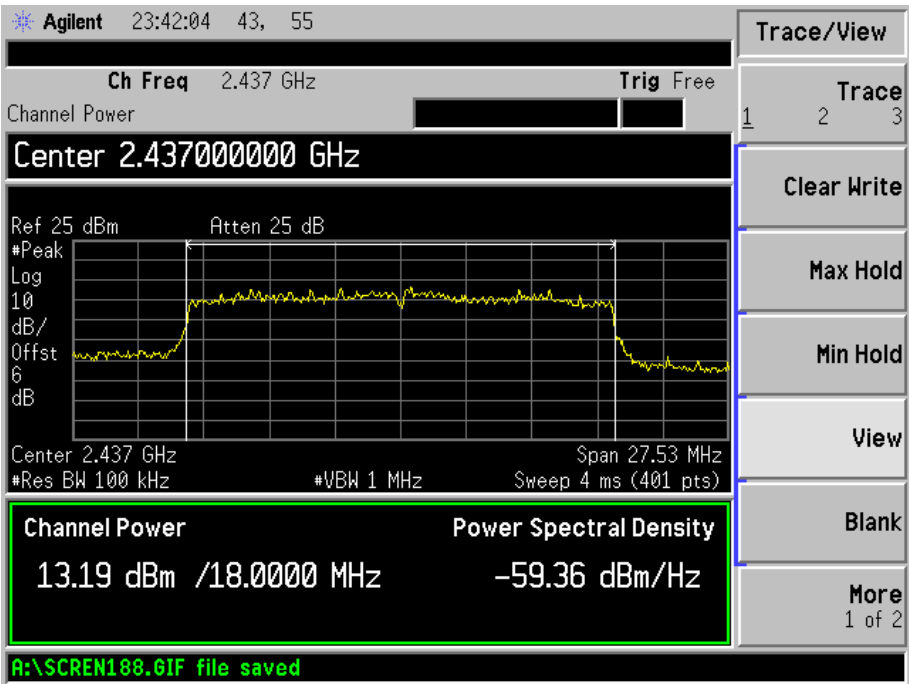
802.11g-54Mbps-High Channel



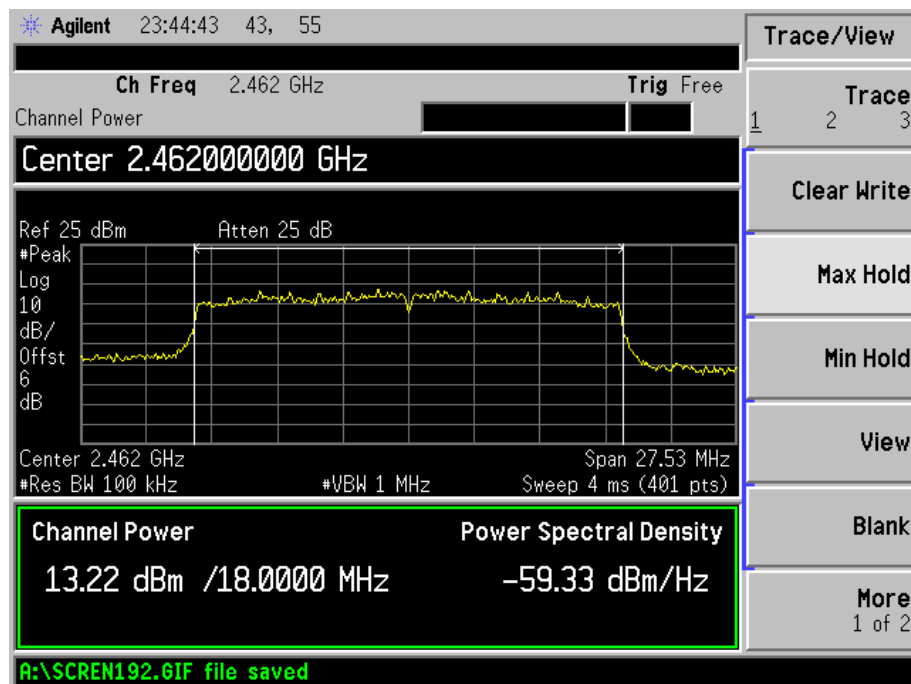
802.11n-HT20-MCS0-Low Channel



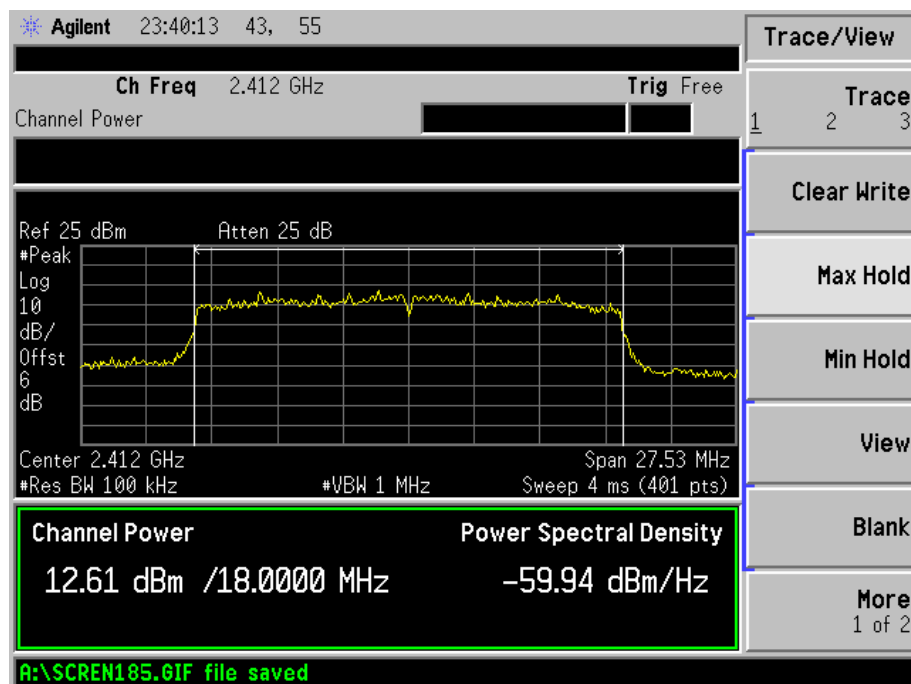
802.11n-HT20-MCS0-Middle Channel



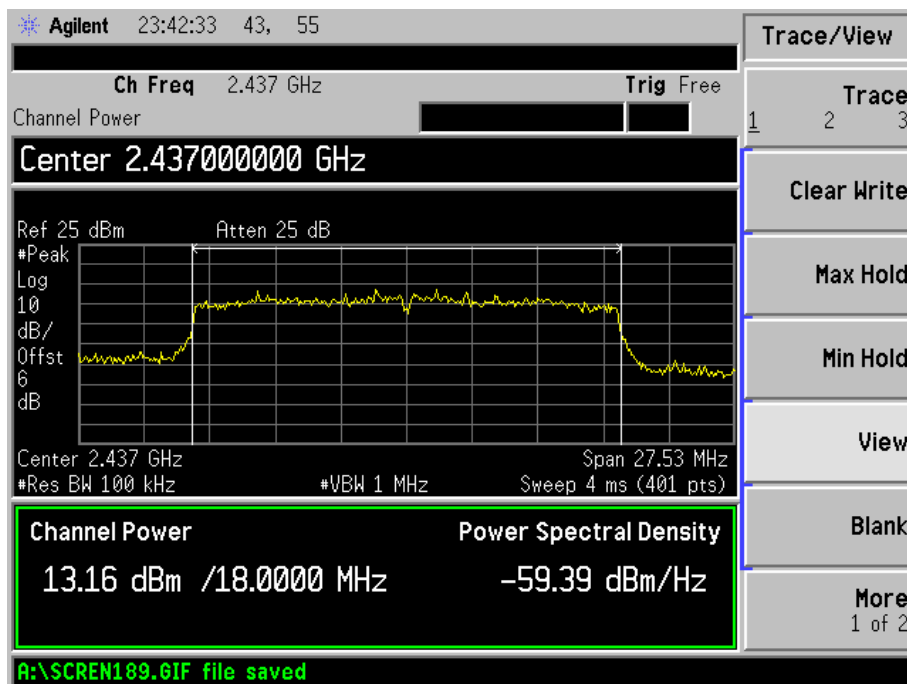
802.11n-HT20-MCS0-High Channel



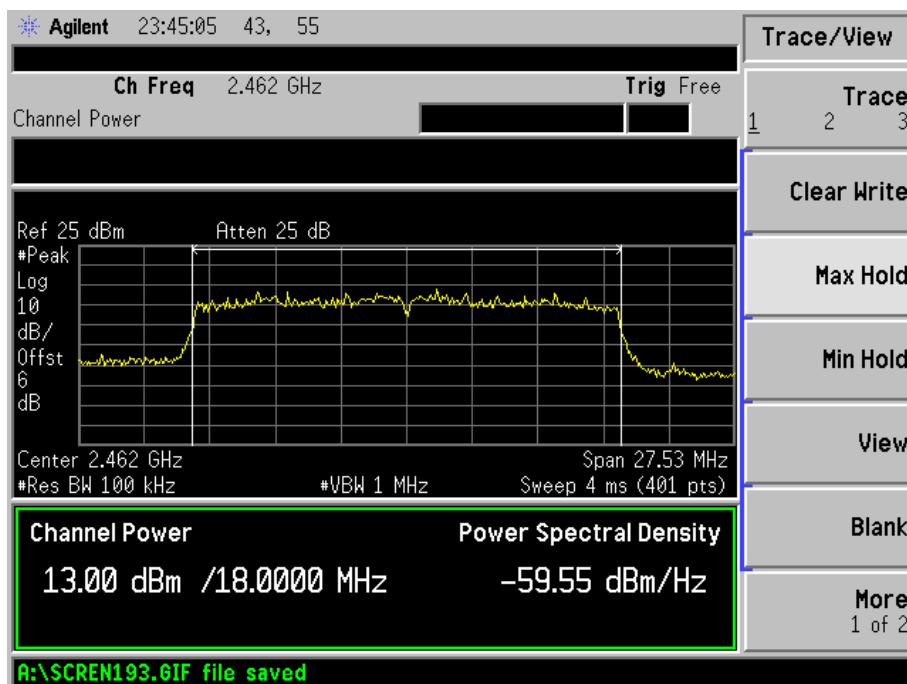
802.11n-HT20-MCS15-Low Channel



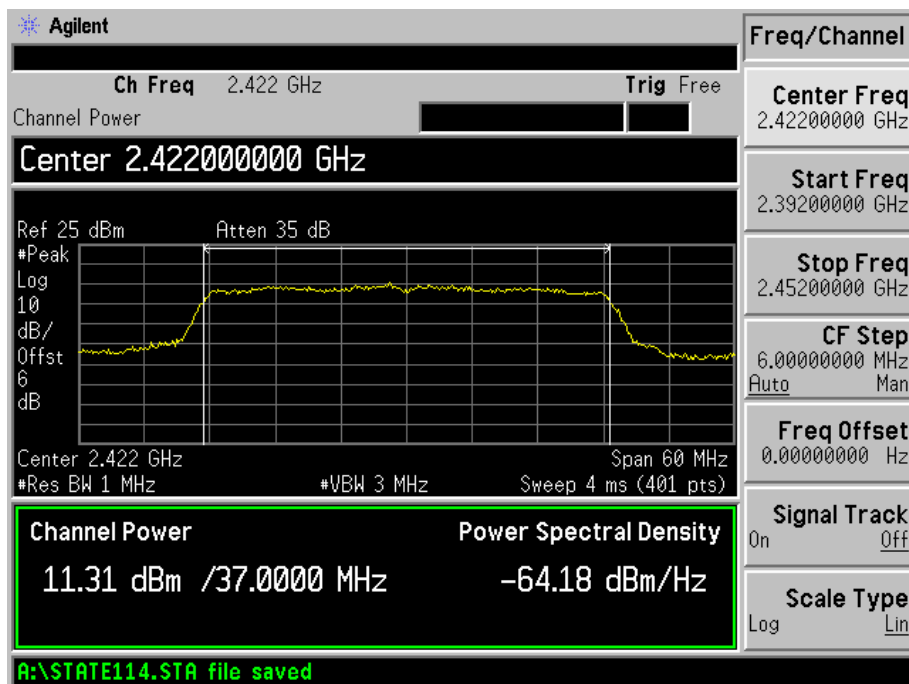
802.11n-HT20-MCS15-Middle Channel



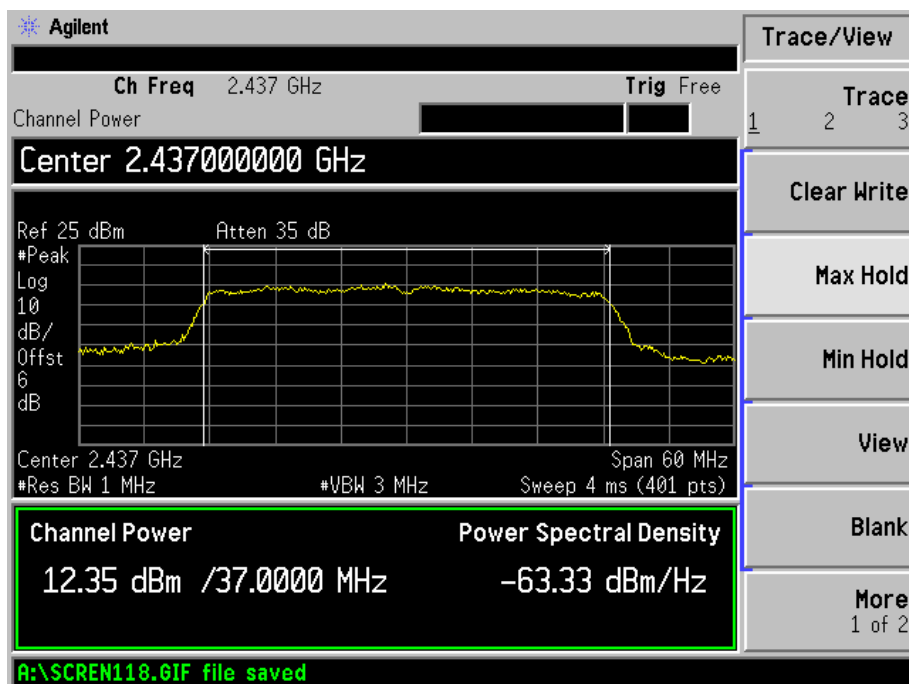
802.11n-HT20-MCS15-High Channel



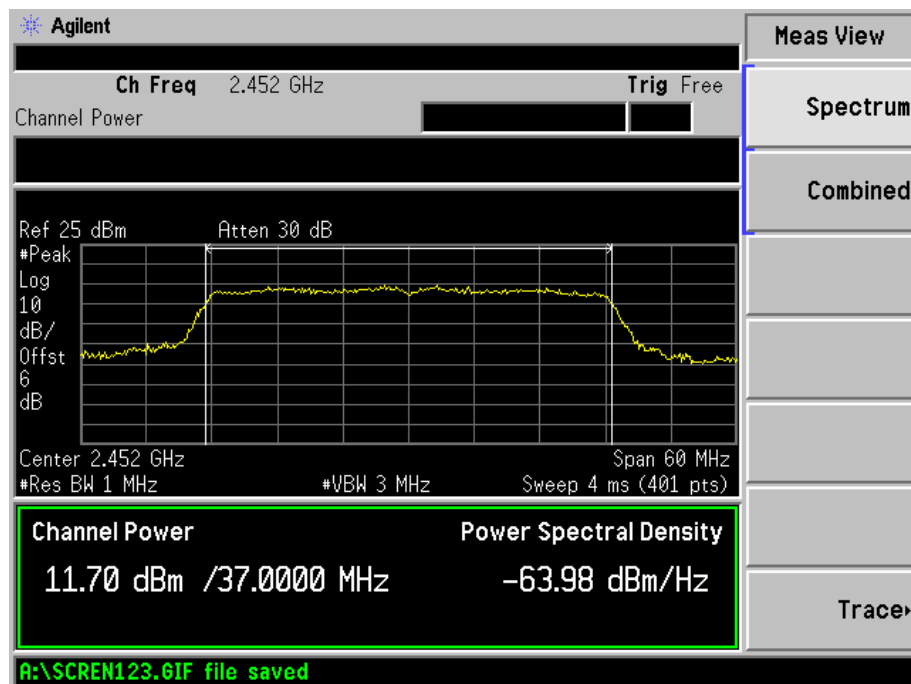
802.11n-HT40-MCS0-Low Channel



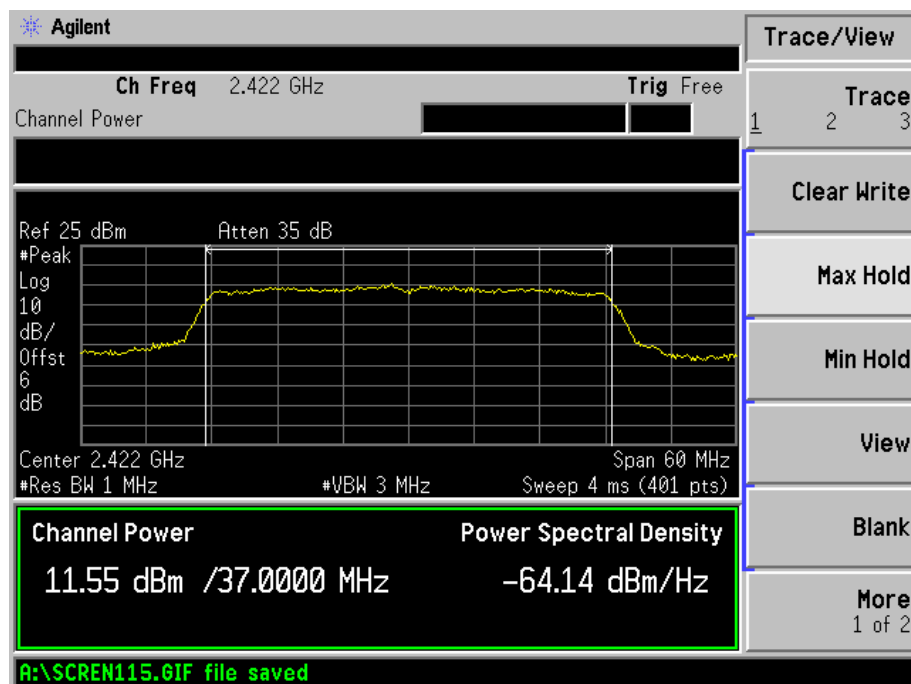
802.11n-HT40-MCS0-Middle Channel



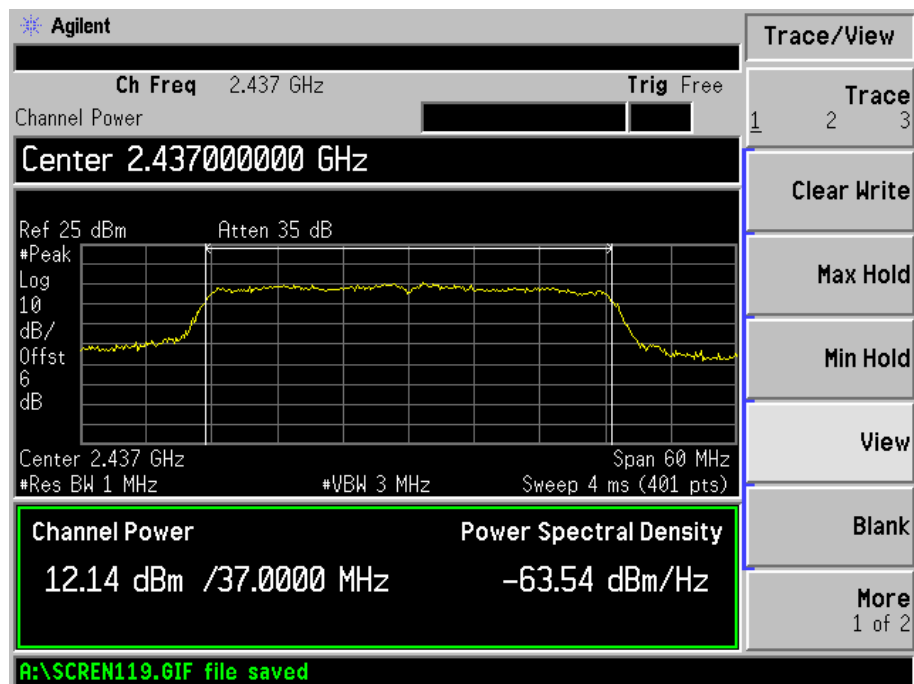
802.11n-HT40-MCS0-High Channel



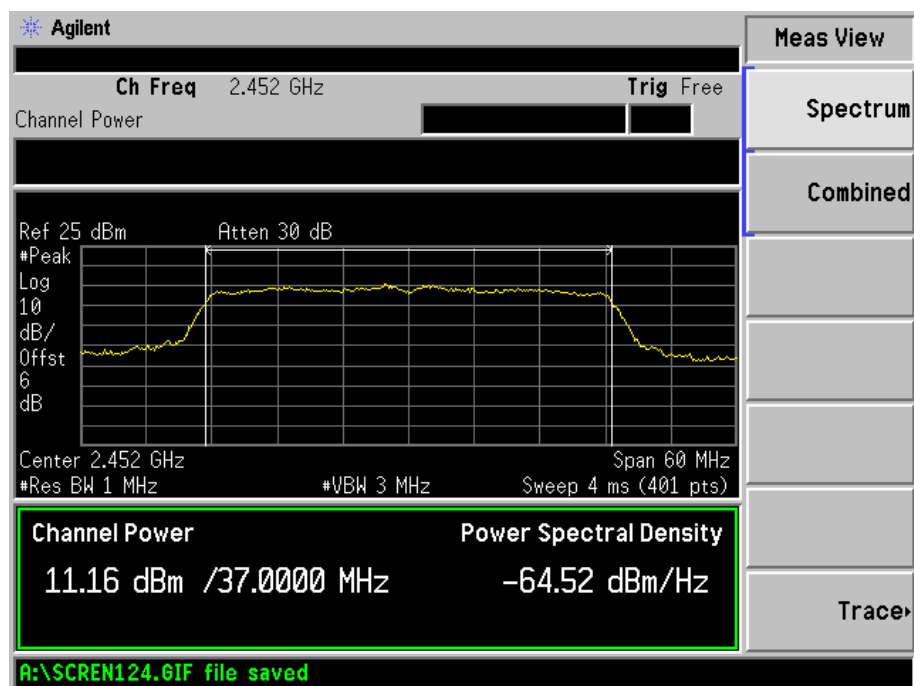
802.11n-HT40-MCS15-Low Channel



802.11n-HT40-MCS15-Middle Channel

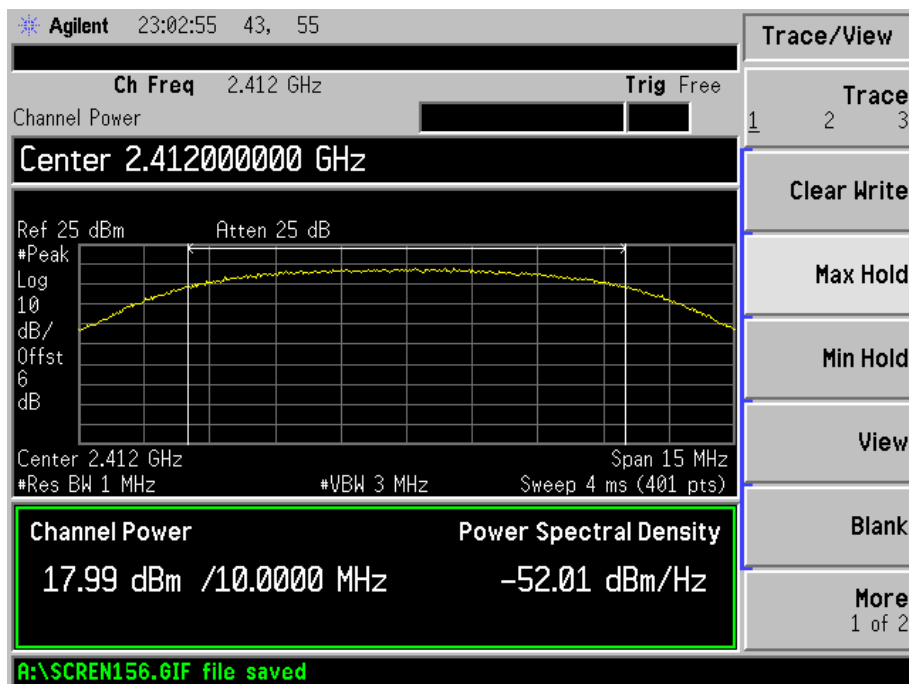


802.11n-HT40-MCS15-High Channel

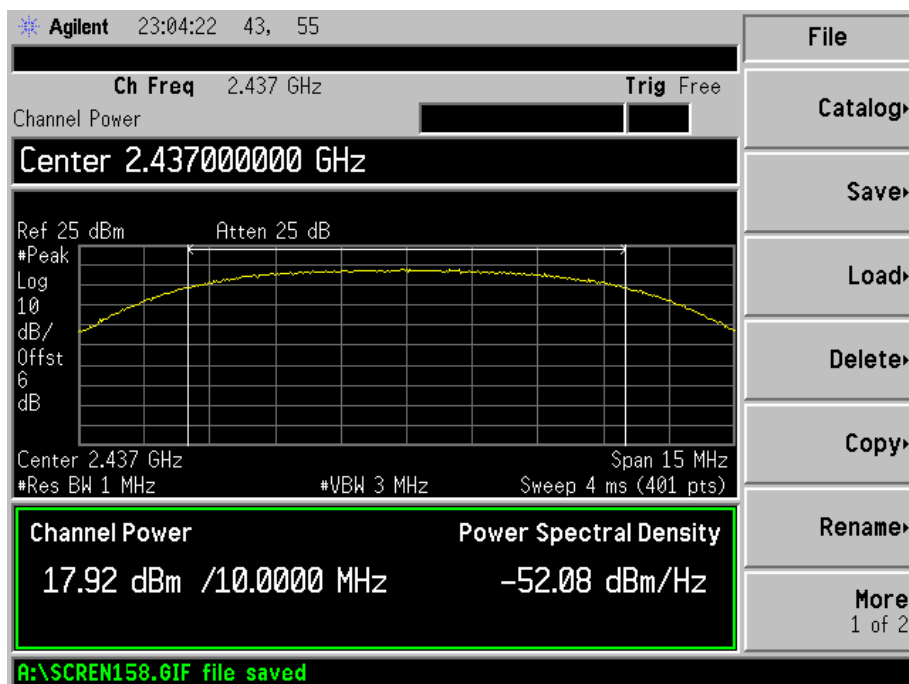


For chain 1

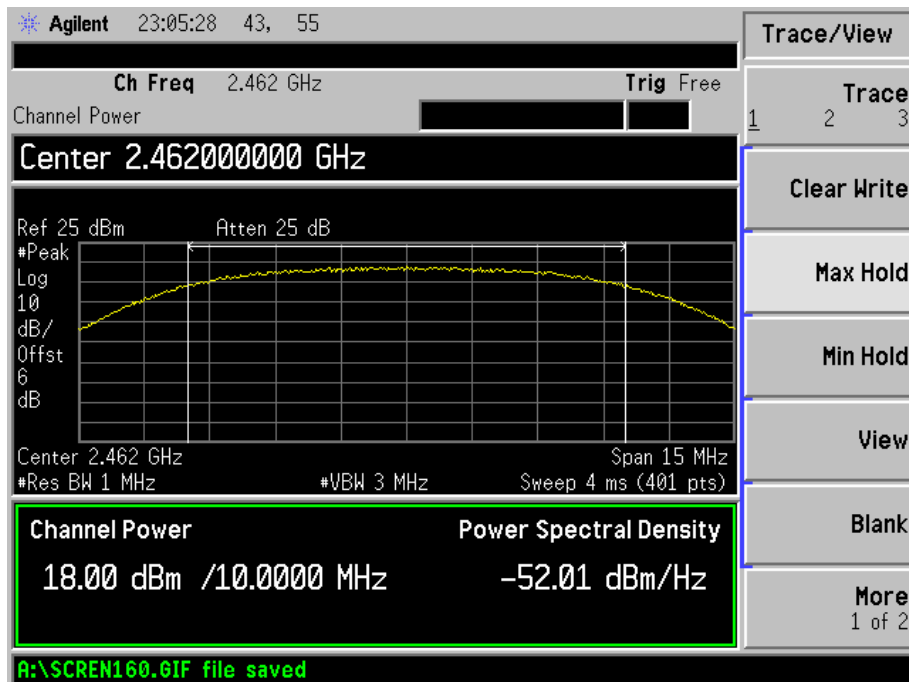
802.11b-1Mbps-Low Channel



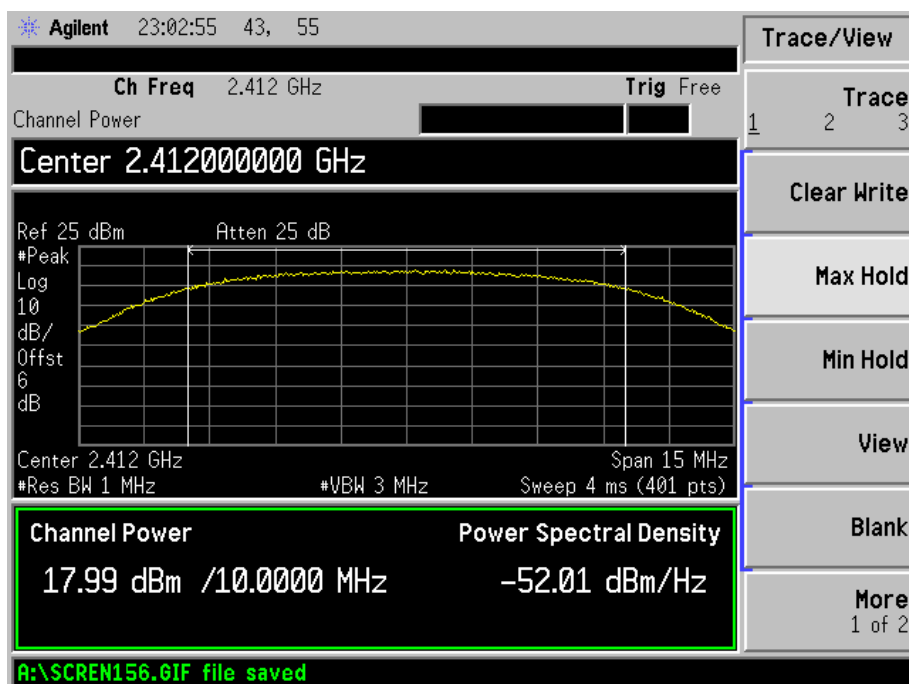
802.11b-1Mbps-Middle Channel



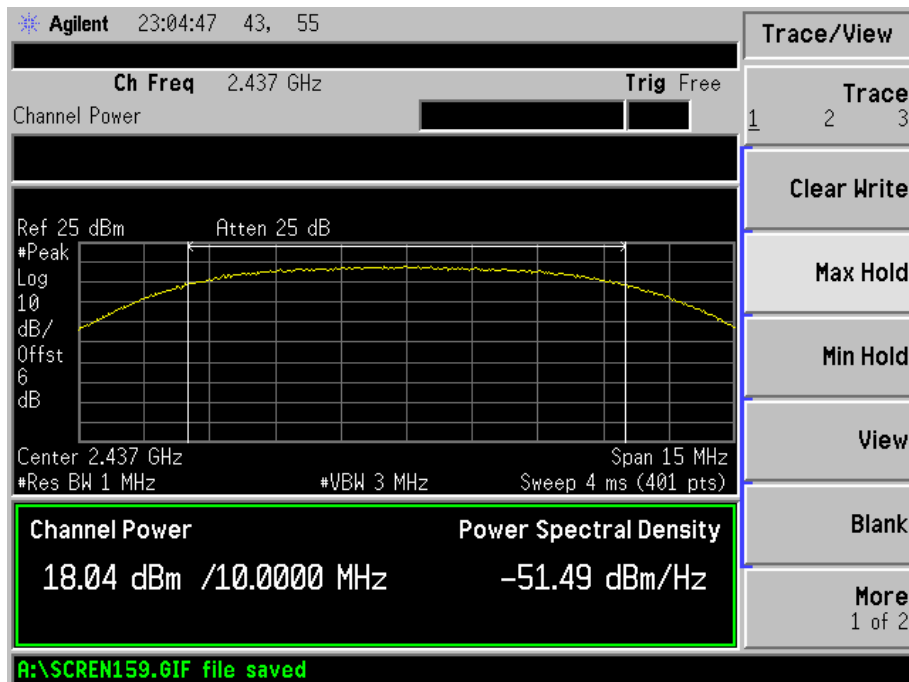
802.11b-1Mbps-High Channel



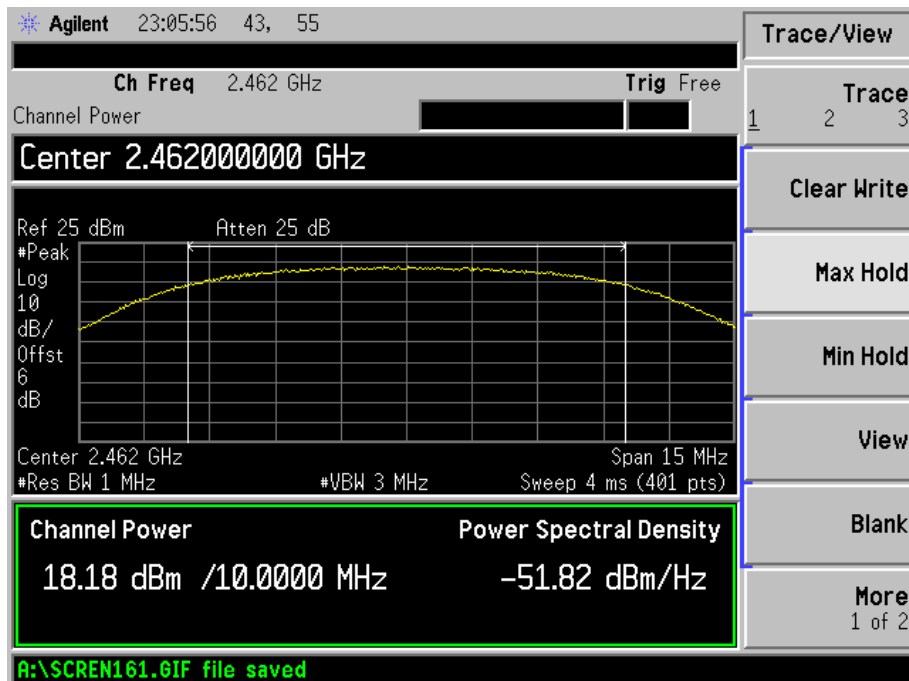
802.11b-11Mbps-Low Channel



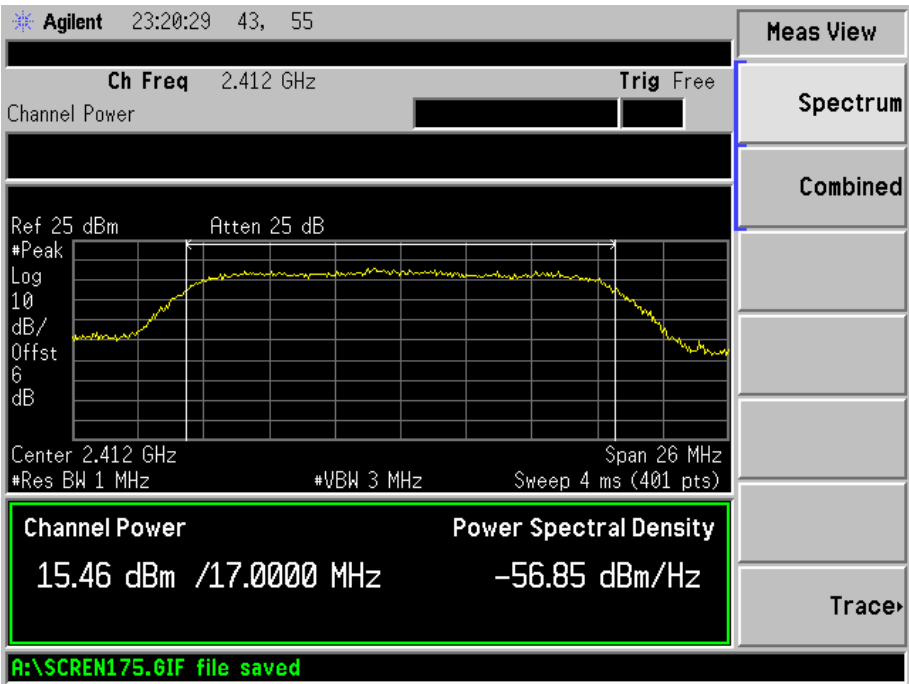
802.11b-11Mbps-Middle Channel



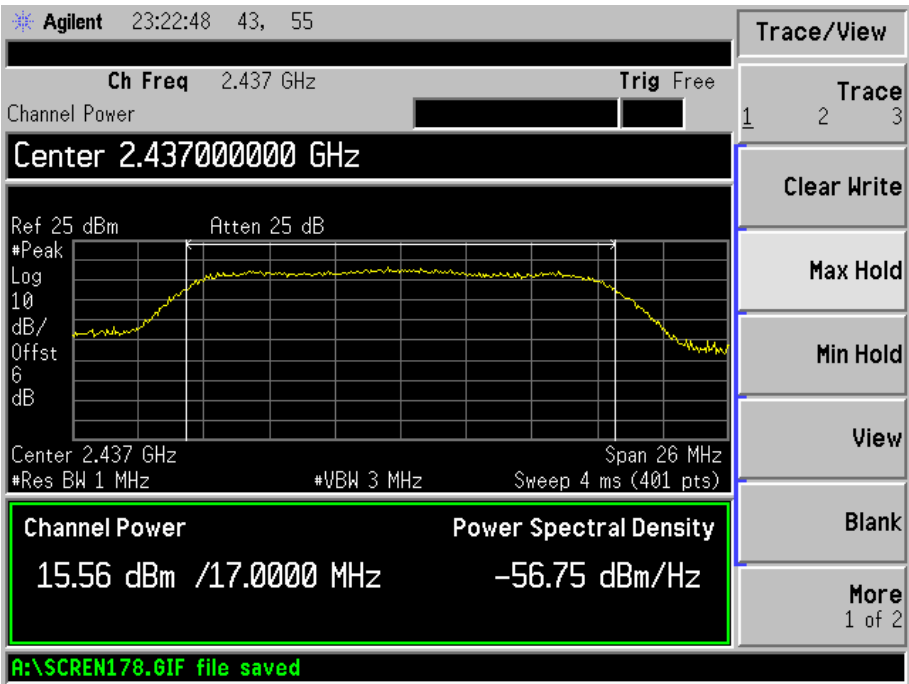
802.11b-11Mbps-High Channel



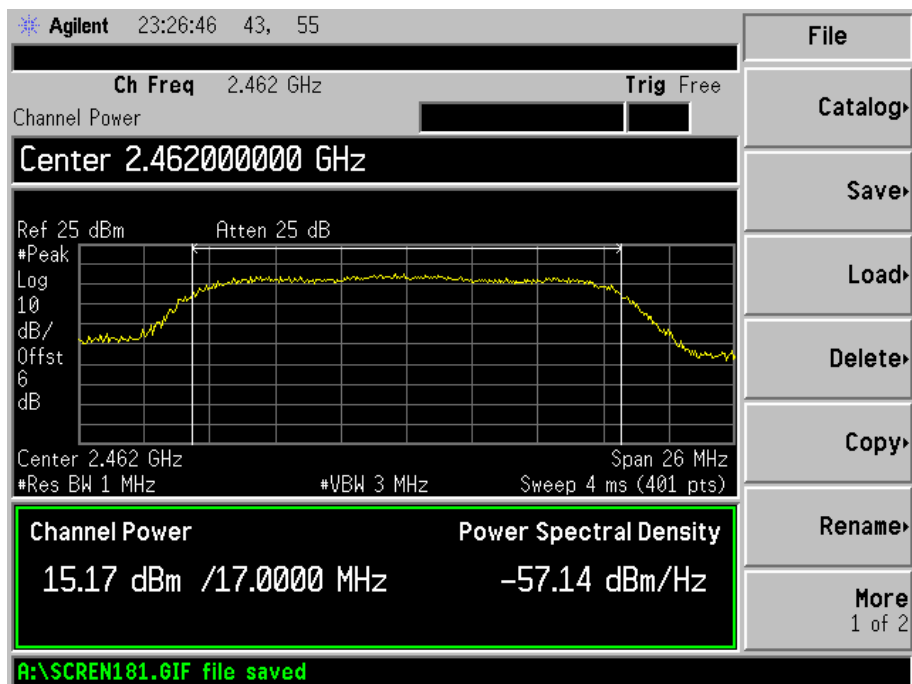
802.11g-6Mbps-Low Channel



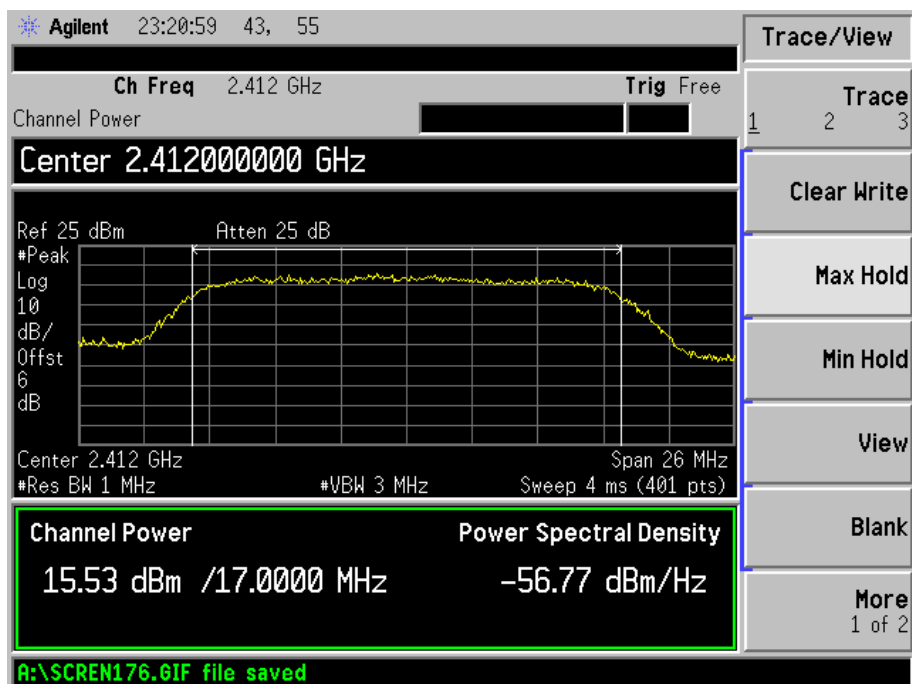
802.11g-6Mbps-Middle Channel



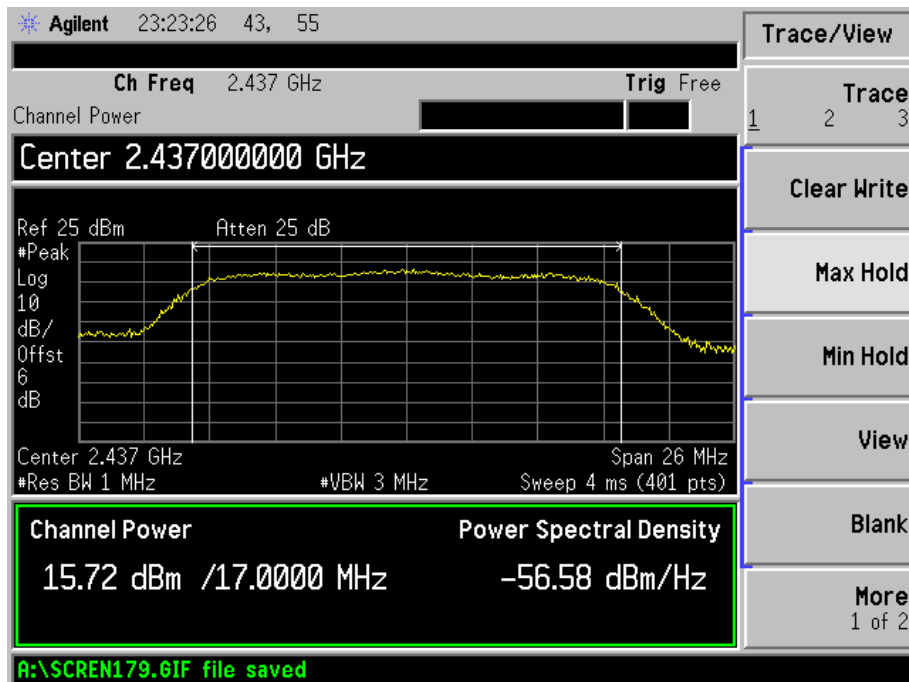
802.11g-6Mbps-High Channel



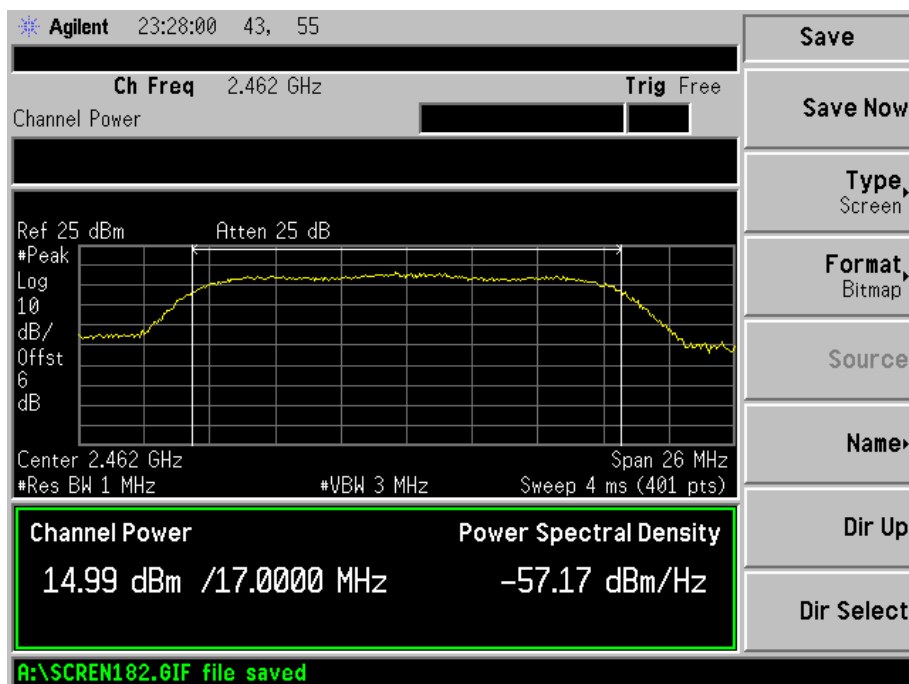
802.11g-54Mbps-Low Channel



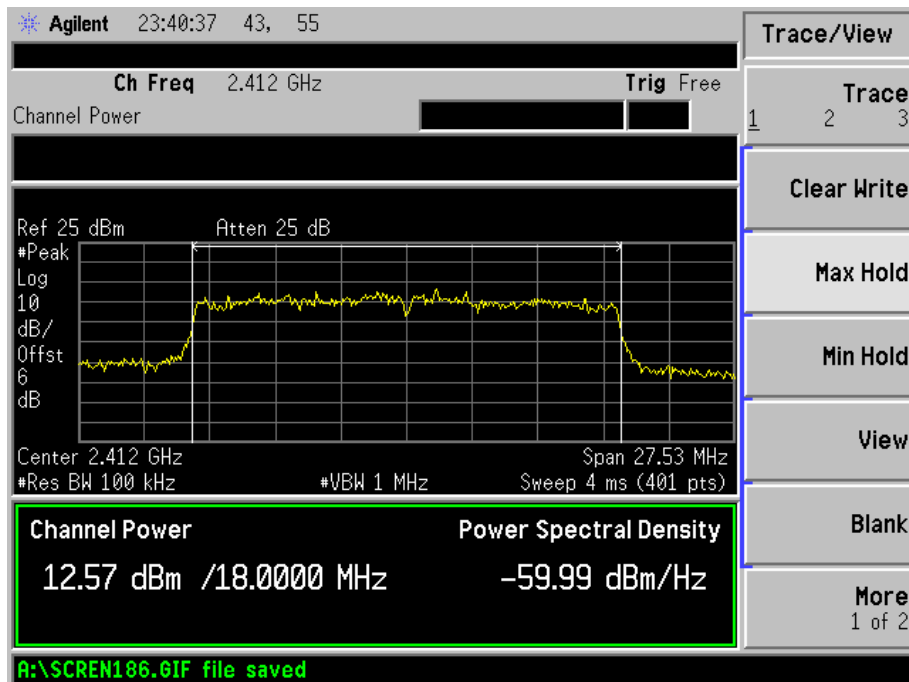
802.11g-54Mbps-Middle Channel



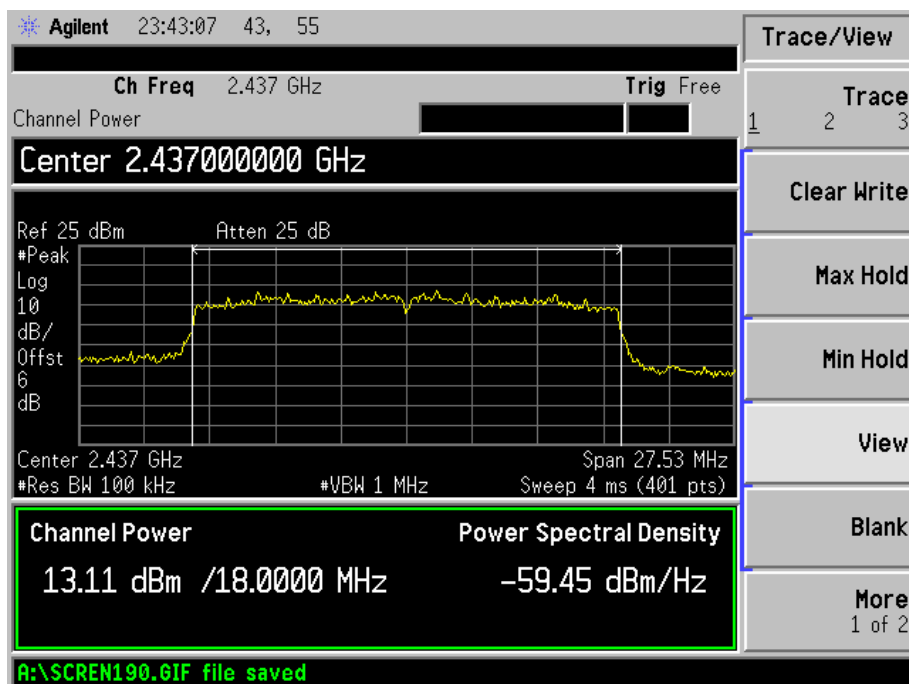
802.11g-54Mbps-High Channel



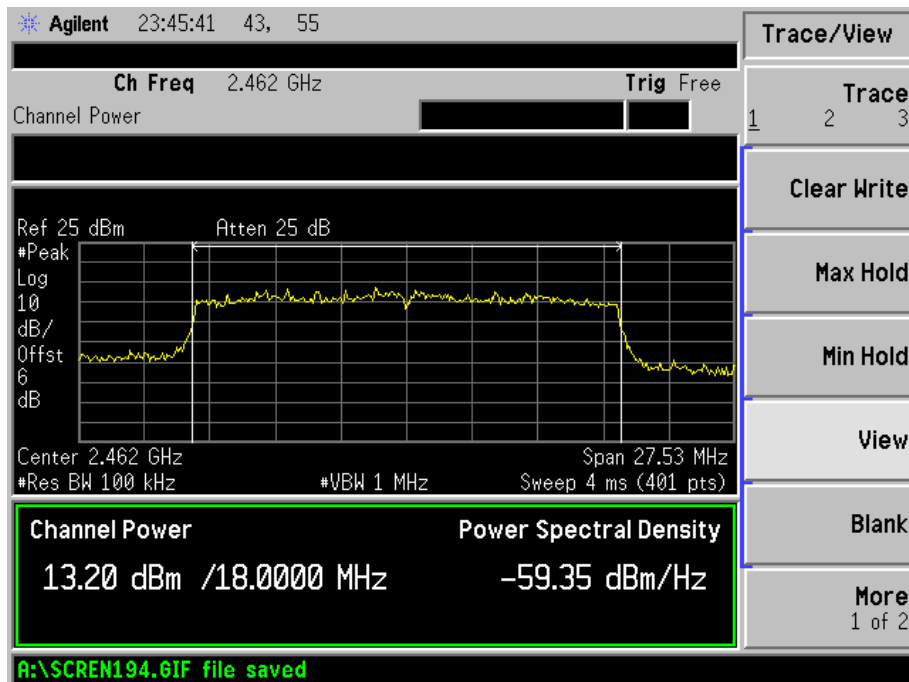
802.11n-HT20-MCS0-Low Channel



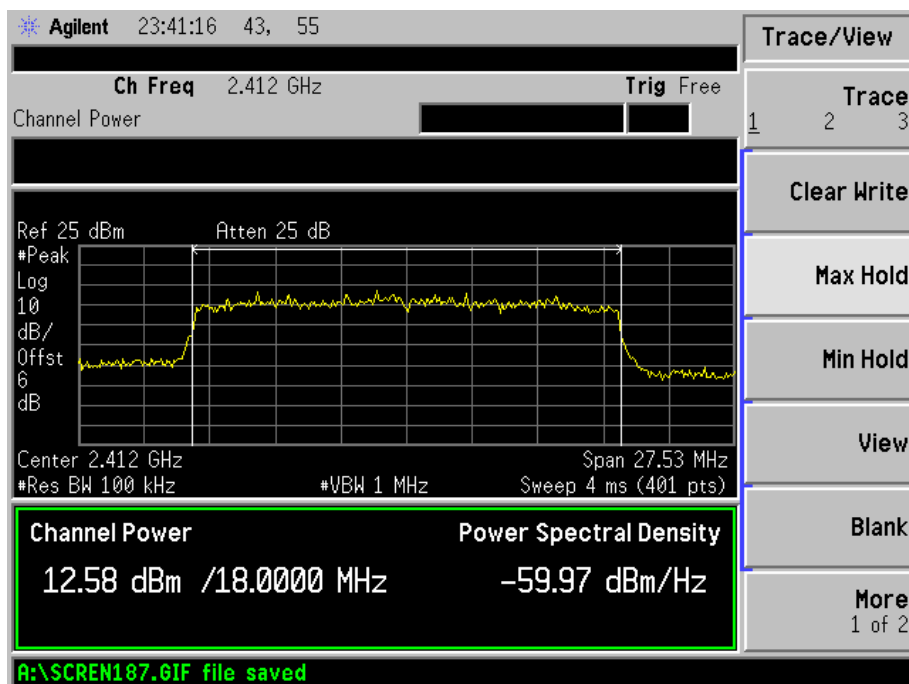
802.11n-HT20-MCS0-Middle Channel



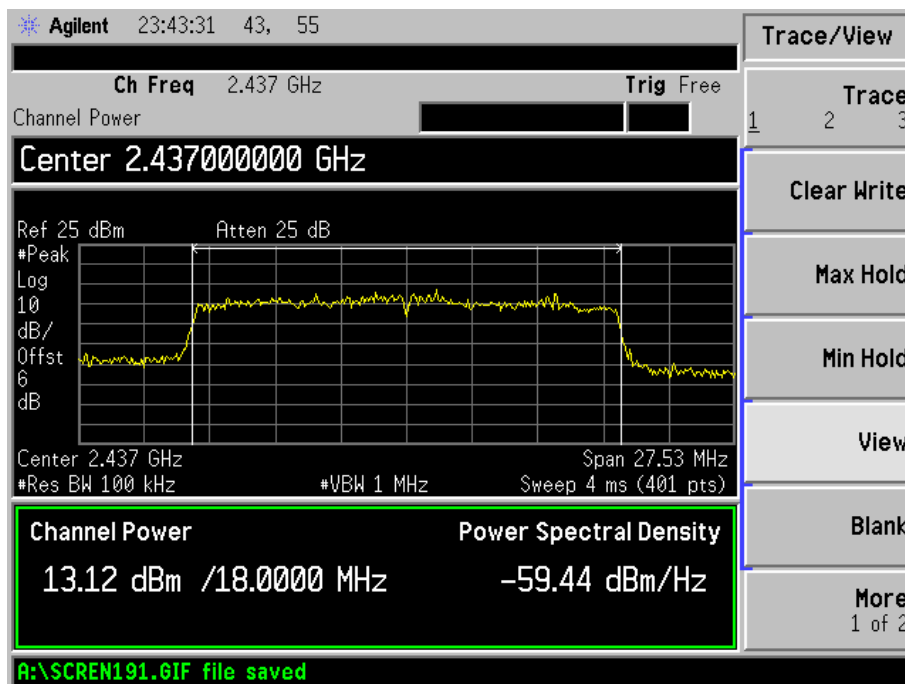
802.11n-HT20-MCS0-High Channel



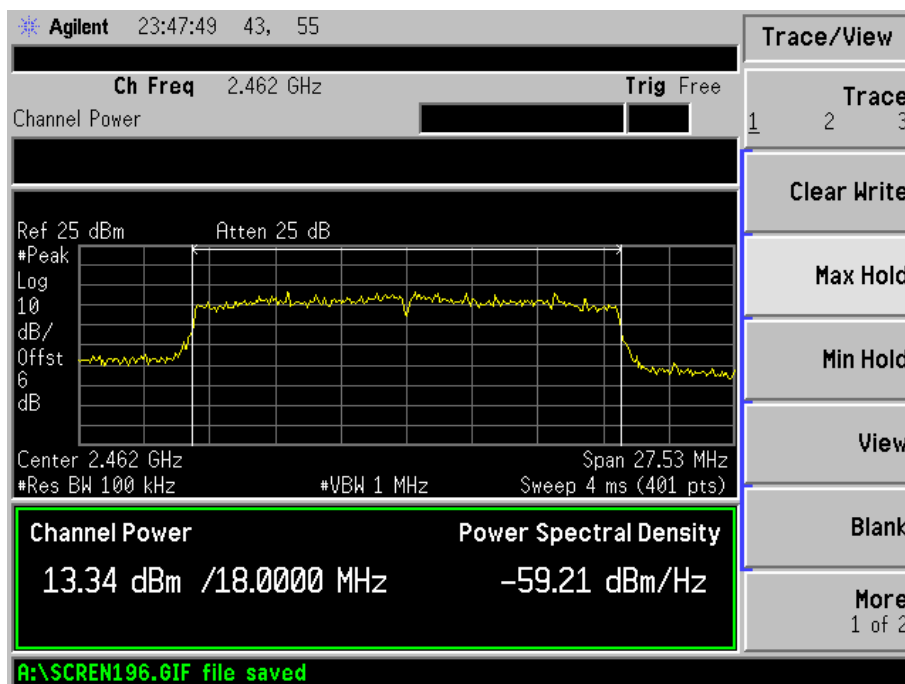
802.11n-HT20-MCS15-Low Channel



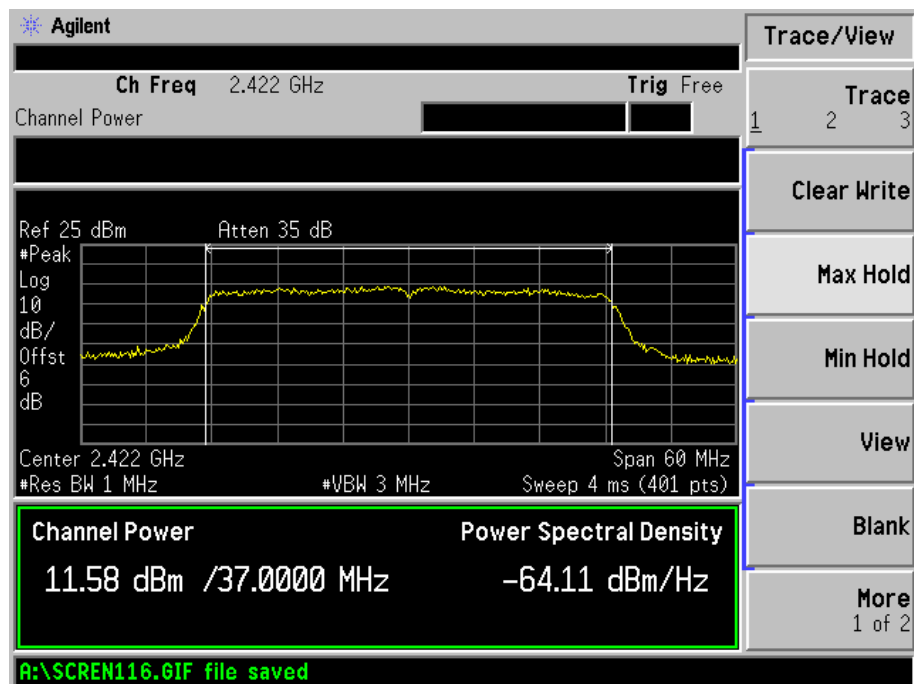
802.11n-HT20-MCS15-Middle Channel



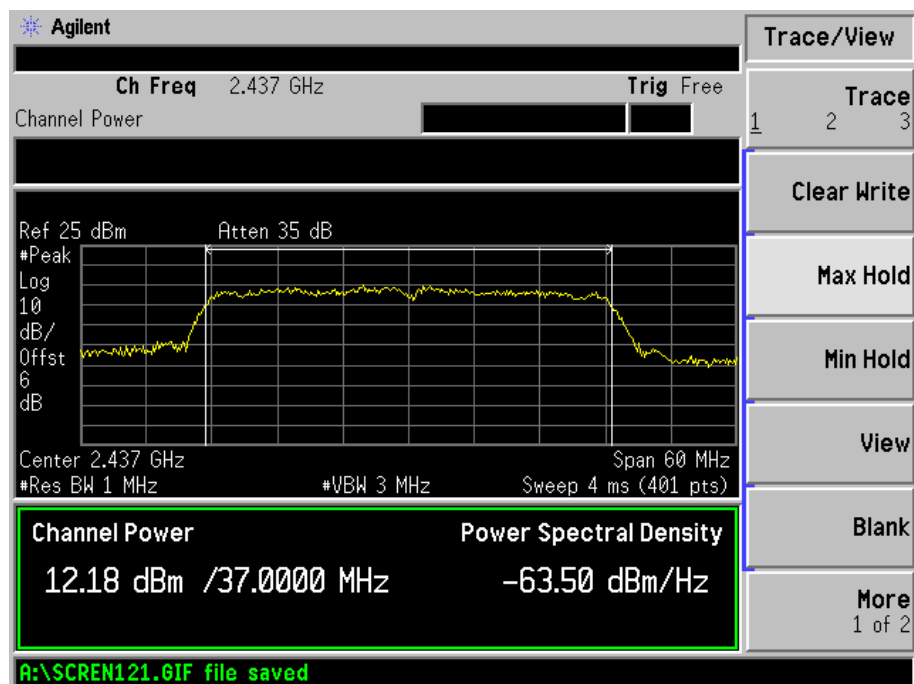
802.11n-HT20-MCS15-High Channel



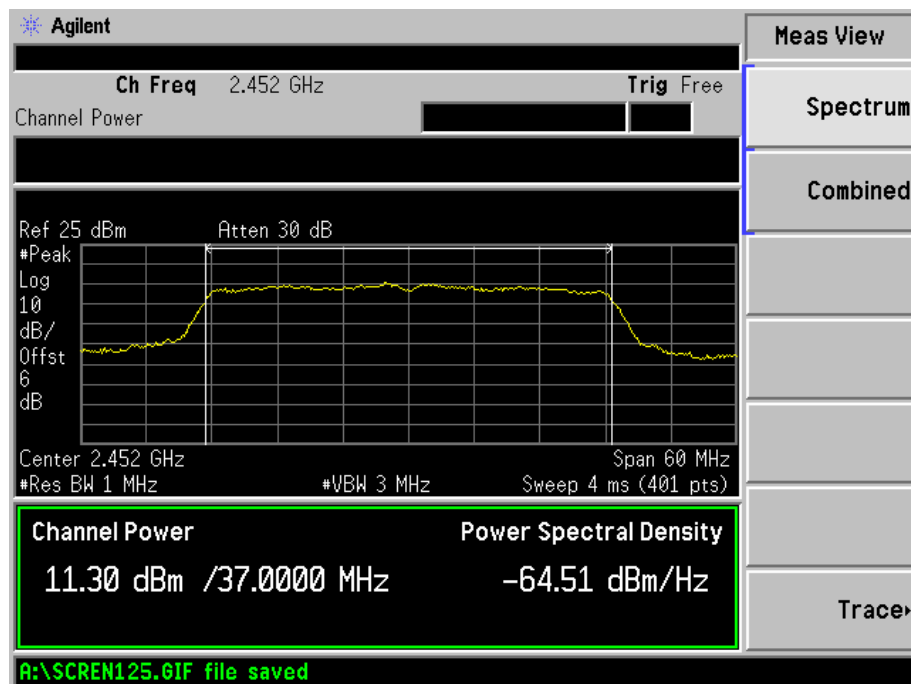
802.11n-HT40-MCS0-Low Channel



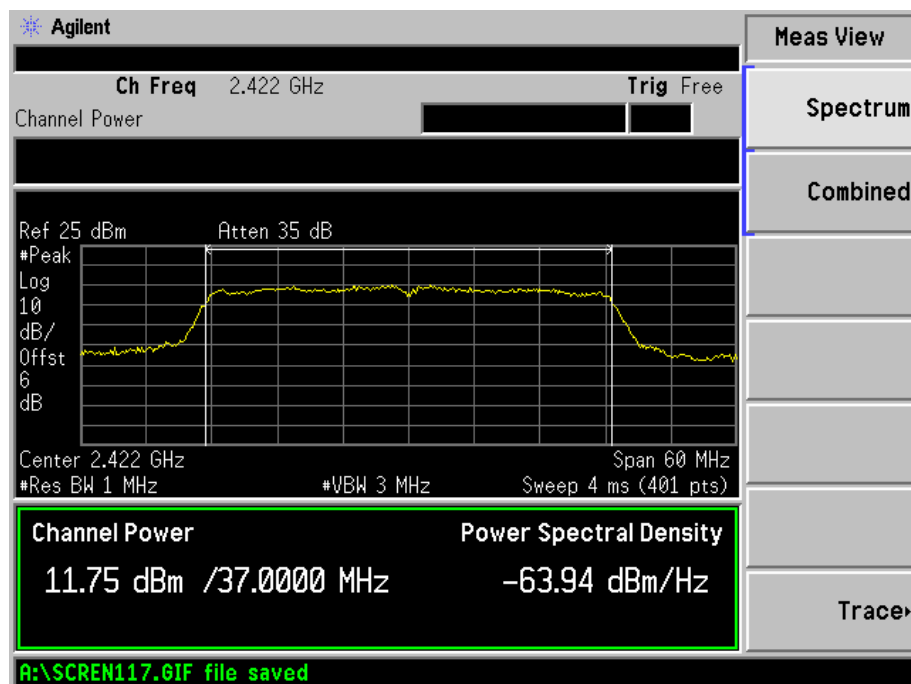
802.11n-HT40-MCS0-Middle Channel



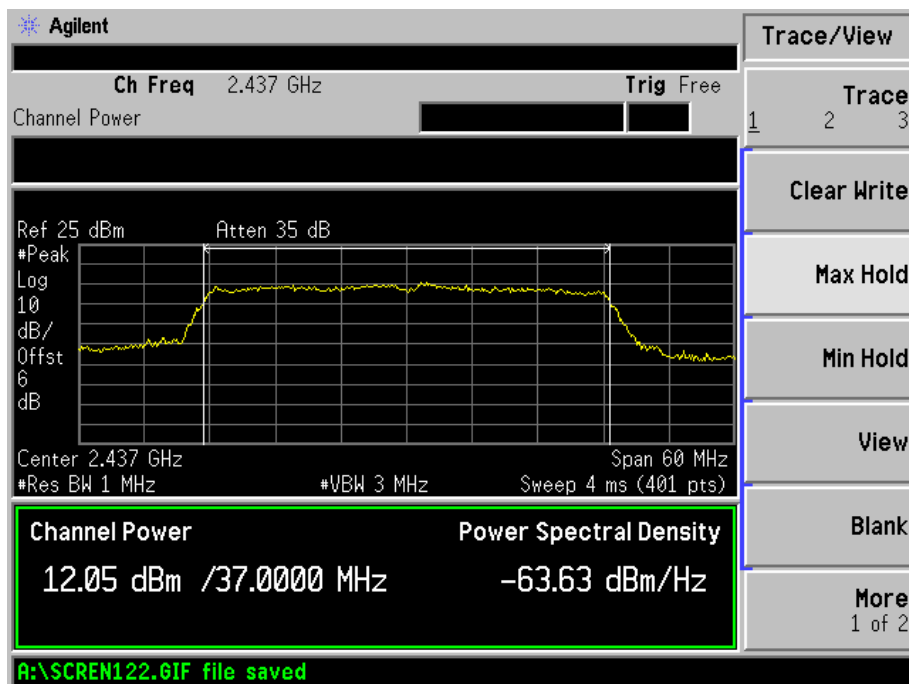
802.11n-HT40-MCS0-High Channel



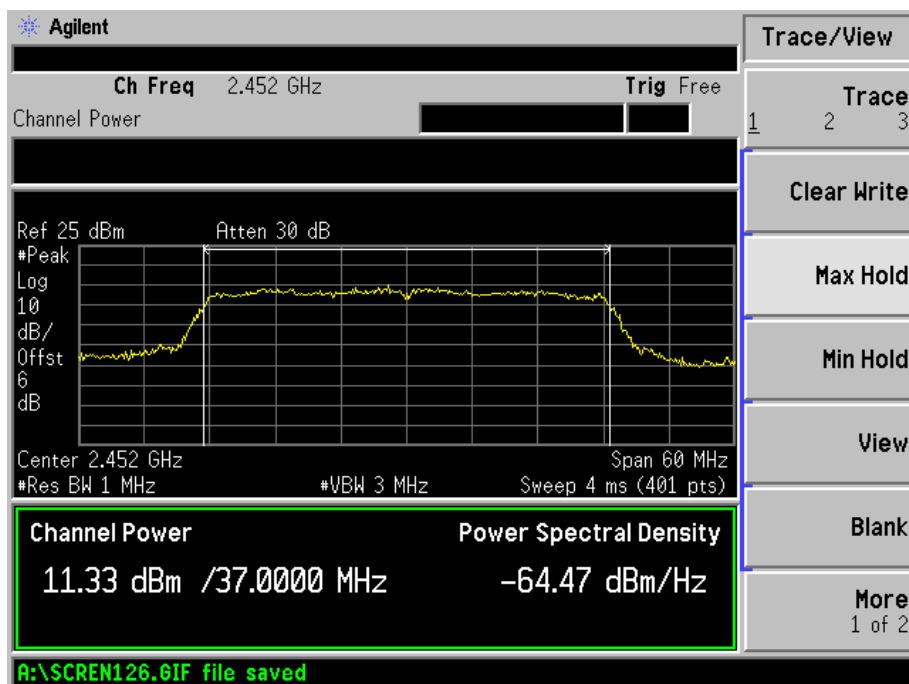
802.11n-HT40-MCS15-Low Channel



802.11n-HT40-MCS15-Middle Channel



802.11n-HT40-MCS15-High Channel



7. Field Strength of Spurious Emissions

7.1 Measurement Uncertainty

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is ± 5.10 dB.

7.2 Standard Applicable

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

7.3 Test Equipment List and Details

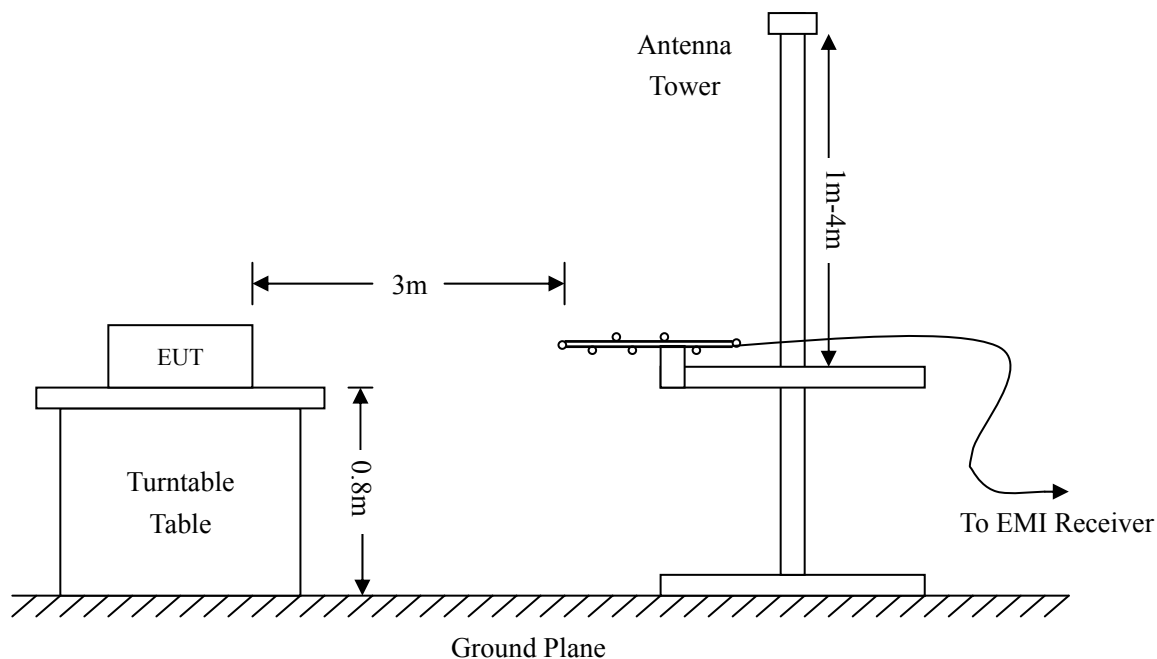
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2013-05-07	2014-05-06
EMI Test Receiver	R&S	ESVB	825471/005	2013-05-07	2014-05-06
Pre-amplifier	Agilent	8447F	3113A06717	2013-05-07	2014-05-06
Pre-amplifier	Compliance Direction	PAP-0118	24002	2013-05-07	2014-05-06
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2013-04-20	2014-04-19
Horn Antenna	ETS	3117	00086197	2013-04-20	2014-04-19
Horn Antenna	ETS	3116B	00088203	2013-04-20	2014-04-19
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2013-04-20	2014-04-19

7.4 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

7.6 Environmental Conditions

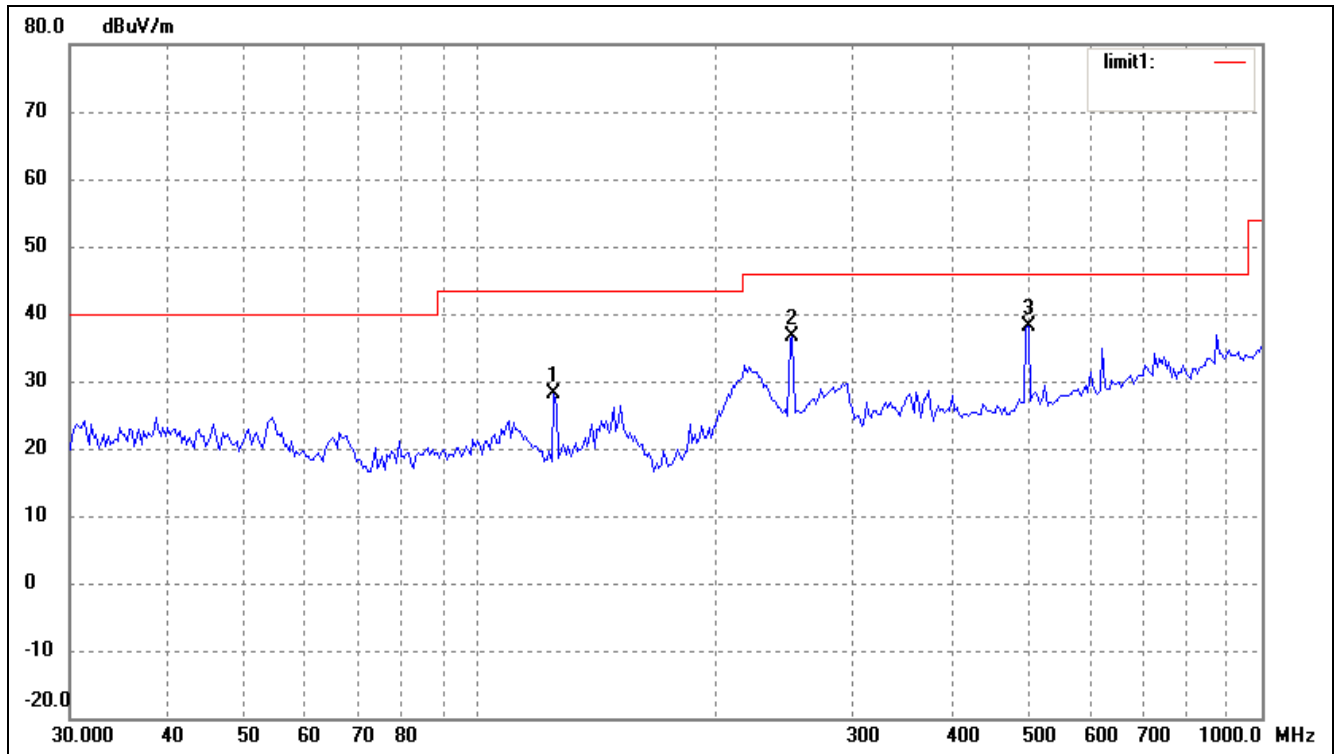
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

7.7 Summary of Test Results/Plots

According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst margin of:

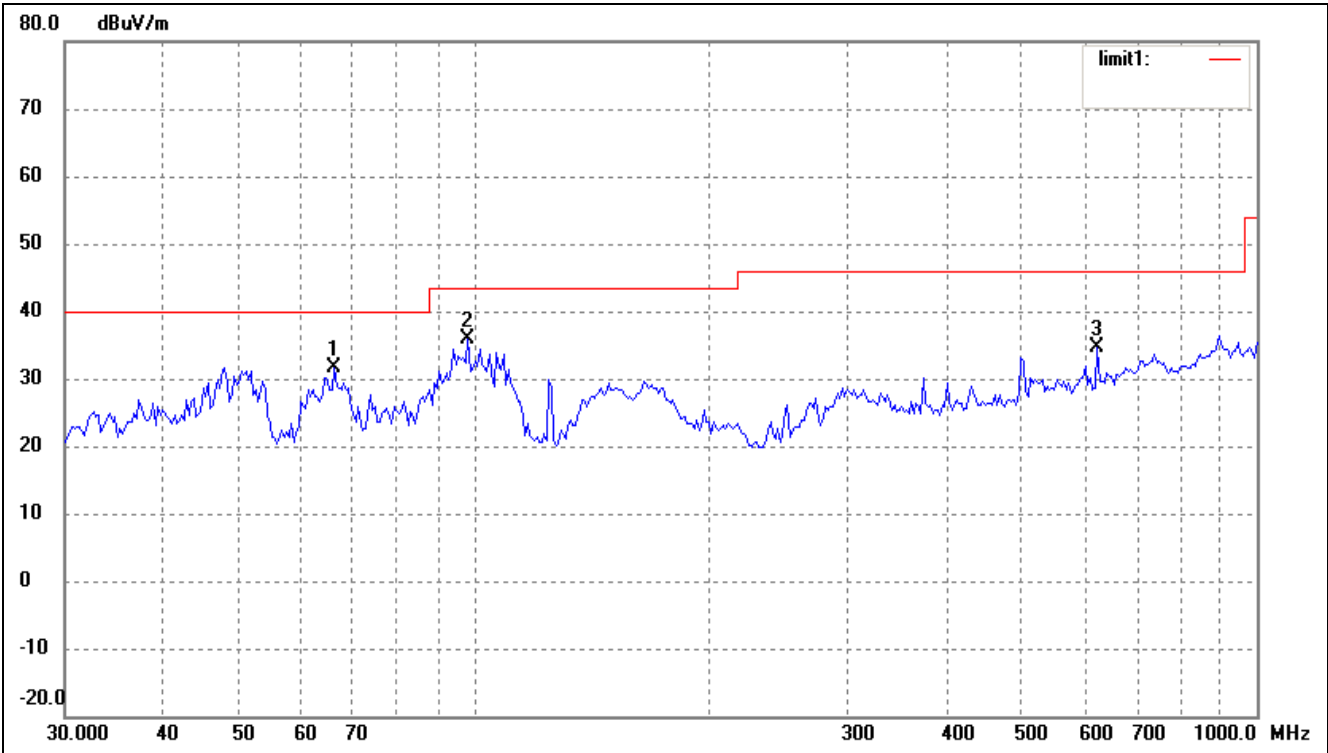
-2.33 dB at 502.9395 MHz in the Vertical polarization for 802.11n-HT40-Highest Channel, 9kHz to 25 GHz, 3 Meters

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* ADSL Home Gateway*Tested Model:* HG-A800 V1.5*Operating Condition:* 802.11b Transmitting Low Channel-2412MHz (Chain 0)*Comment:* AC 120V/60Hz; adapter DC 12V*Test Specification:* Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	124.5690	23.55	4.53	28.08	43.50	-15.42	215	100	peak
2	251.1804	29.29	7.34	36.63	46.00	-9.37	360	100	peak
3	502.9395	25.71	12.30	38.01	46.00	-7.99	225	100	peak

Test Specification: Vertical

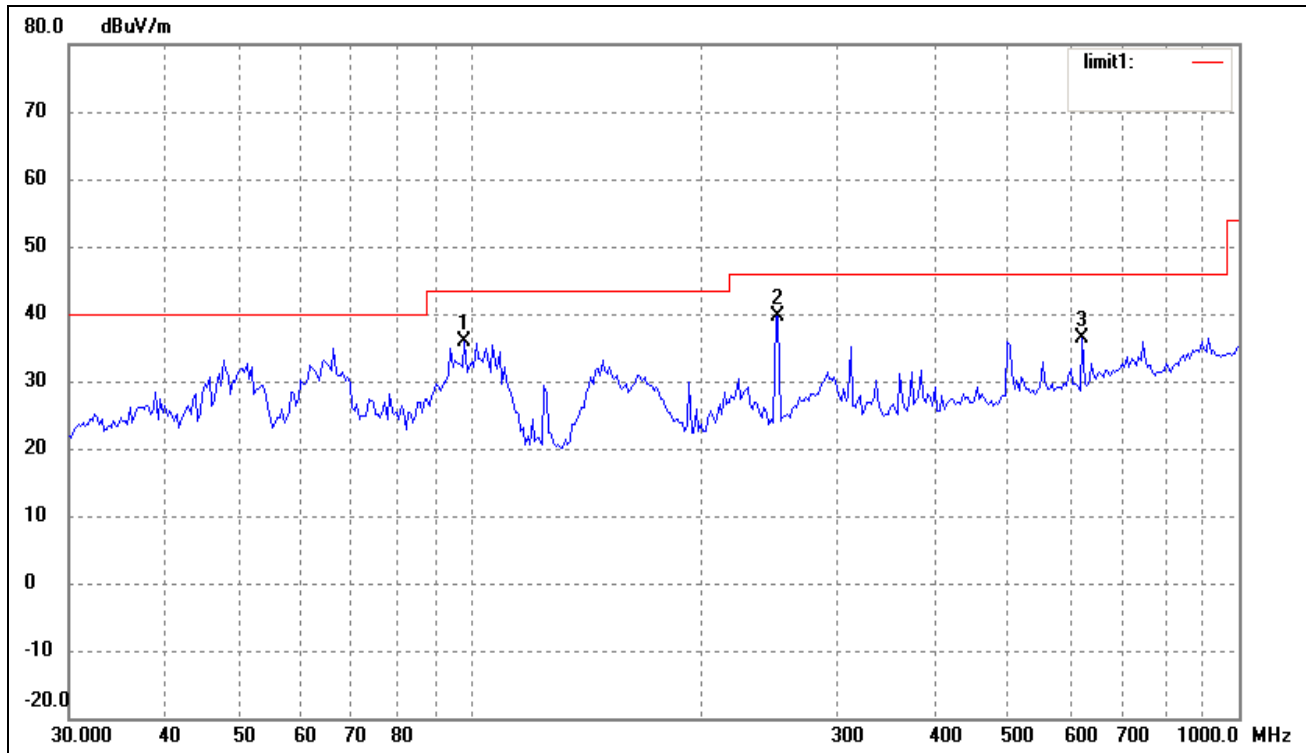


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	66.2662	28.02	3.71	31.73	40.00	-8.27	360	100	peak
2	98.1419	29.43	6.39	35.82	43.50	-7.68	24	100	peak
3	625.0780	20.32	14.23	34.55	46.00	-11.45	64	100	peak

Operating Condition: 802.11b Transmitting Middle Channel-2437MHz (Chain 0)

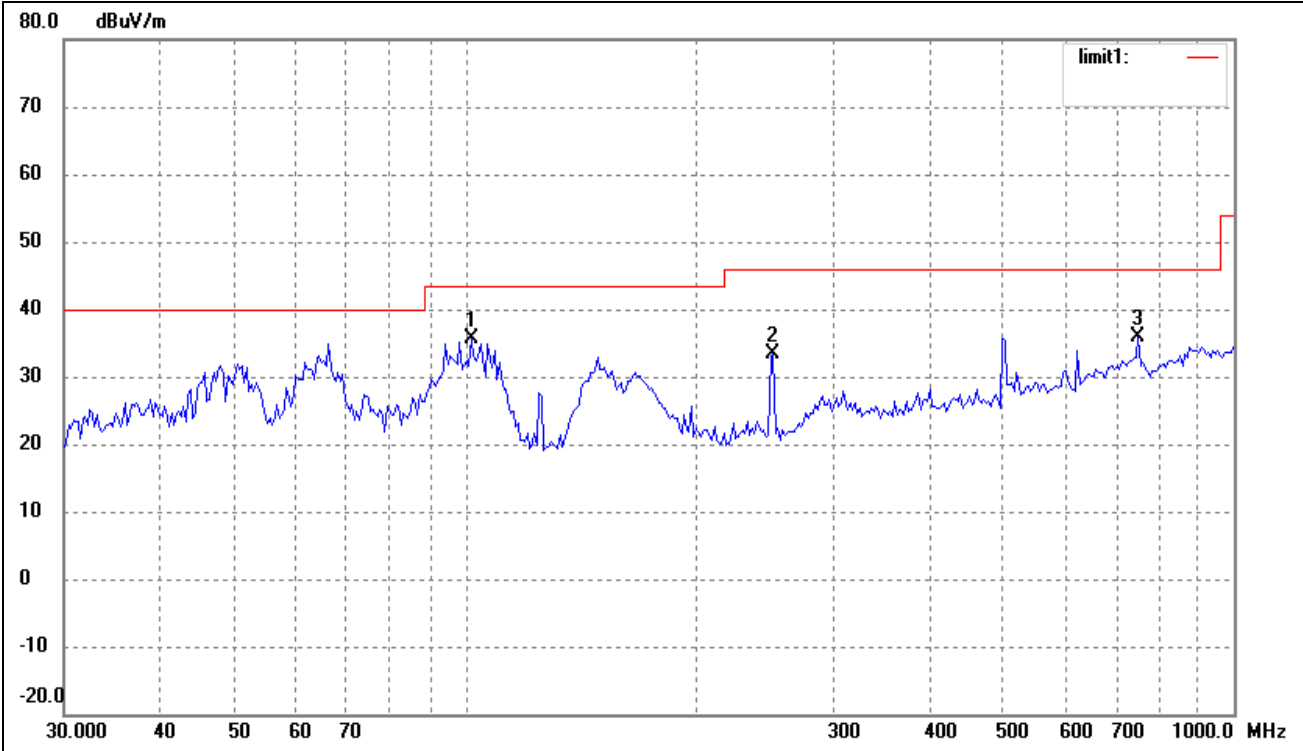
Comment: AC 120V/60Hz, adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	29.41	6.39	35.80	43.50	-7.70	266	100	QP
2	251.1804	32.38	7.34	39.72	46.00	-6.28	31	100	QP
3	625.0780	22.14	14.23	36.37	46.00	-9.63	45	100	QP

Test Specification: Vertical

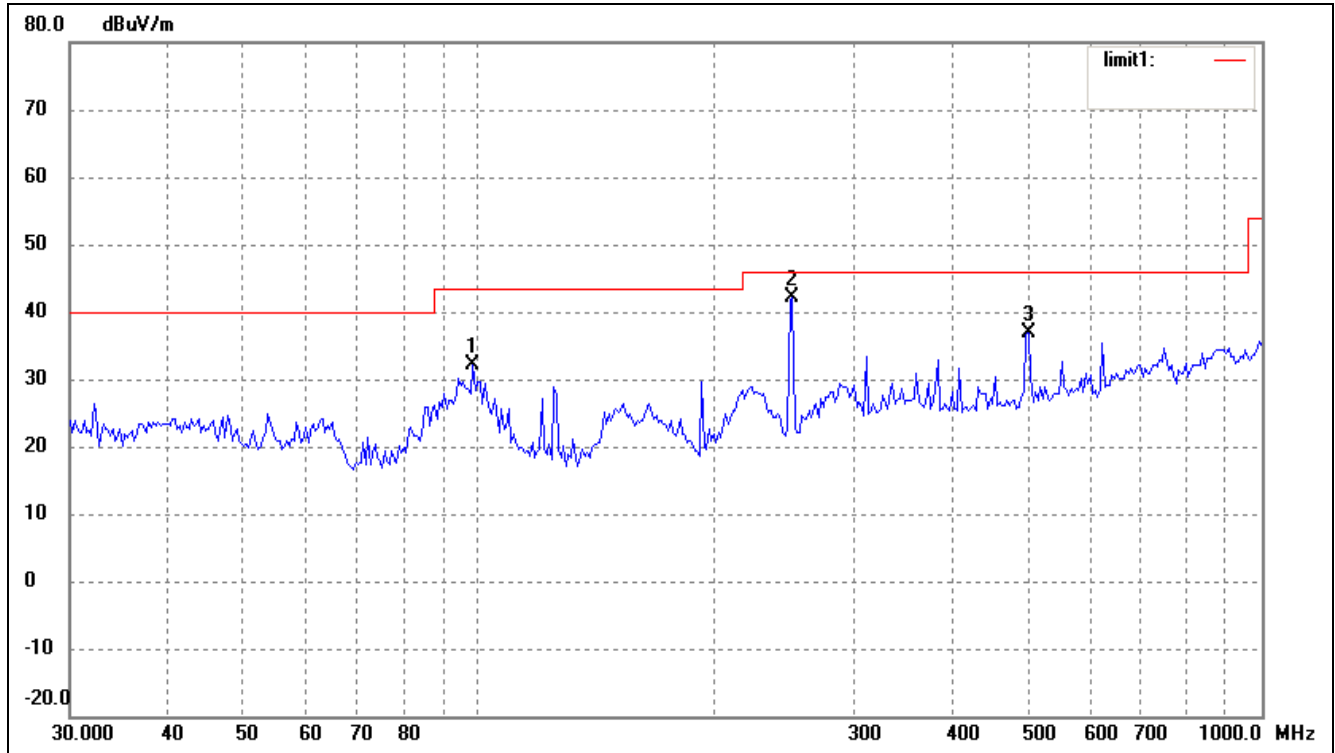


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	101.6443	28.90	6.67	35.57	43.50	-7.93	36	100	peak
2	251.1804	26.00	7.34	33.34	46.00	-12.66	24	100	peak
3	750.1083	18.14	17.78	35.92	46.00	-10.08	322	100	peak

Operating Condition: 802.11b Transmitting Highest Channel-2462MHz (Chain 0)

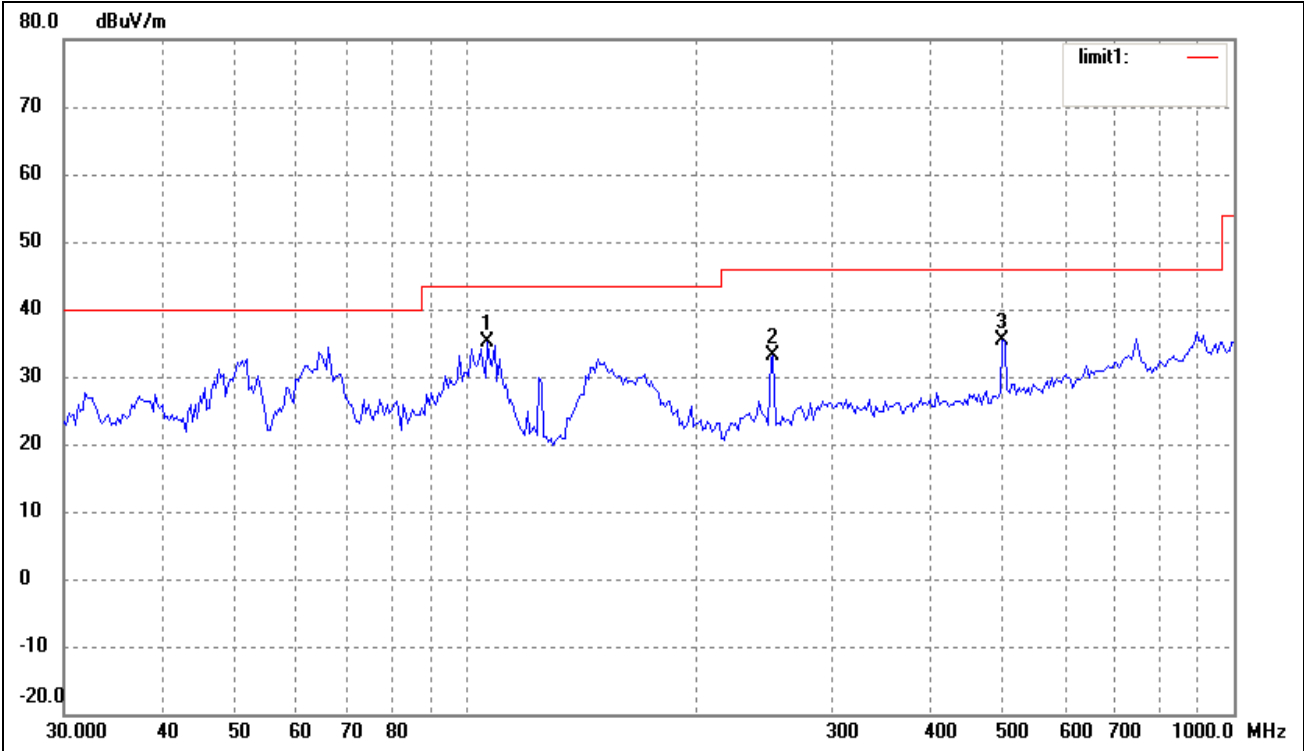
Comment: AC 120V/60Hz; adapter DC 12V

Test Specification: Horizontal

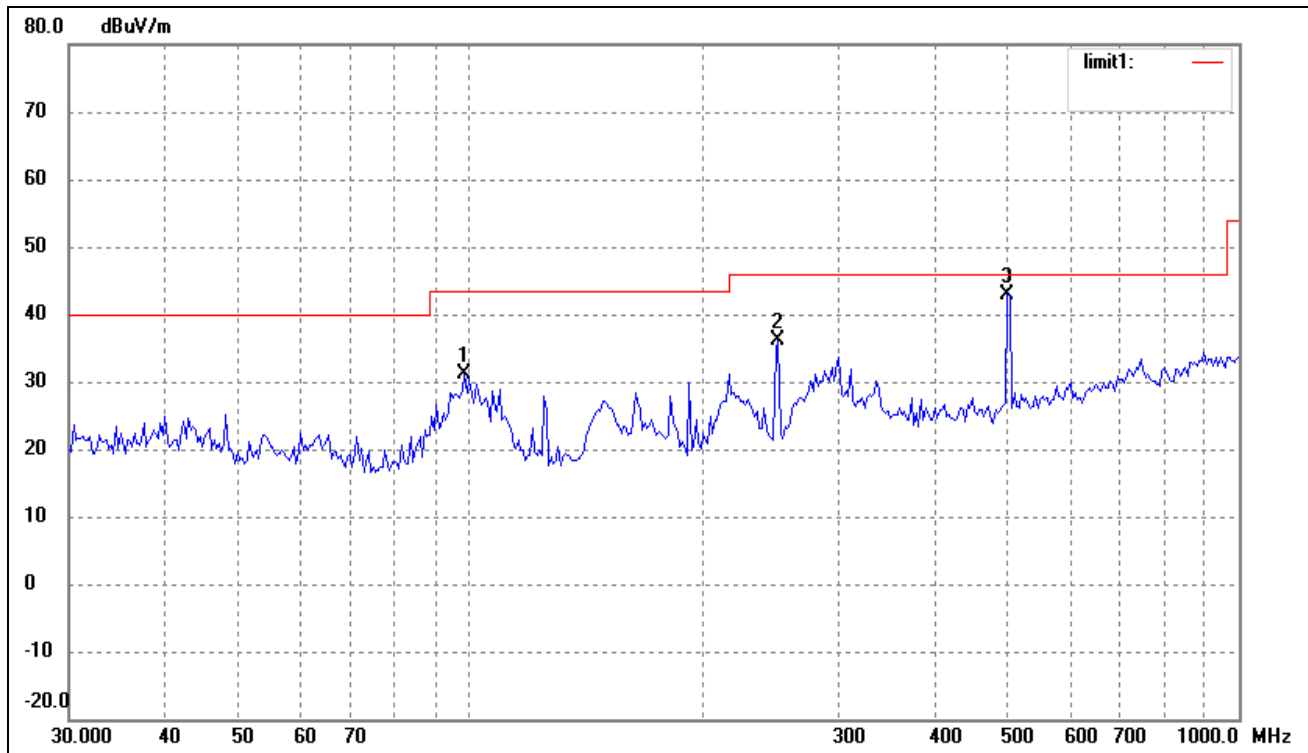


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	25.85	6.39	32.24	43.50	-11.26	360	100	QP
2	251.1804	34.87	7.34	42.21	46.00	-3.79	255	100	QP
3	502.9395	24.66	12.30	36.96	46.00	-9.04	64	100	QP

Test Specification: Vertical

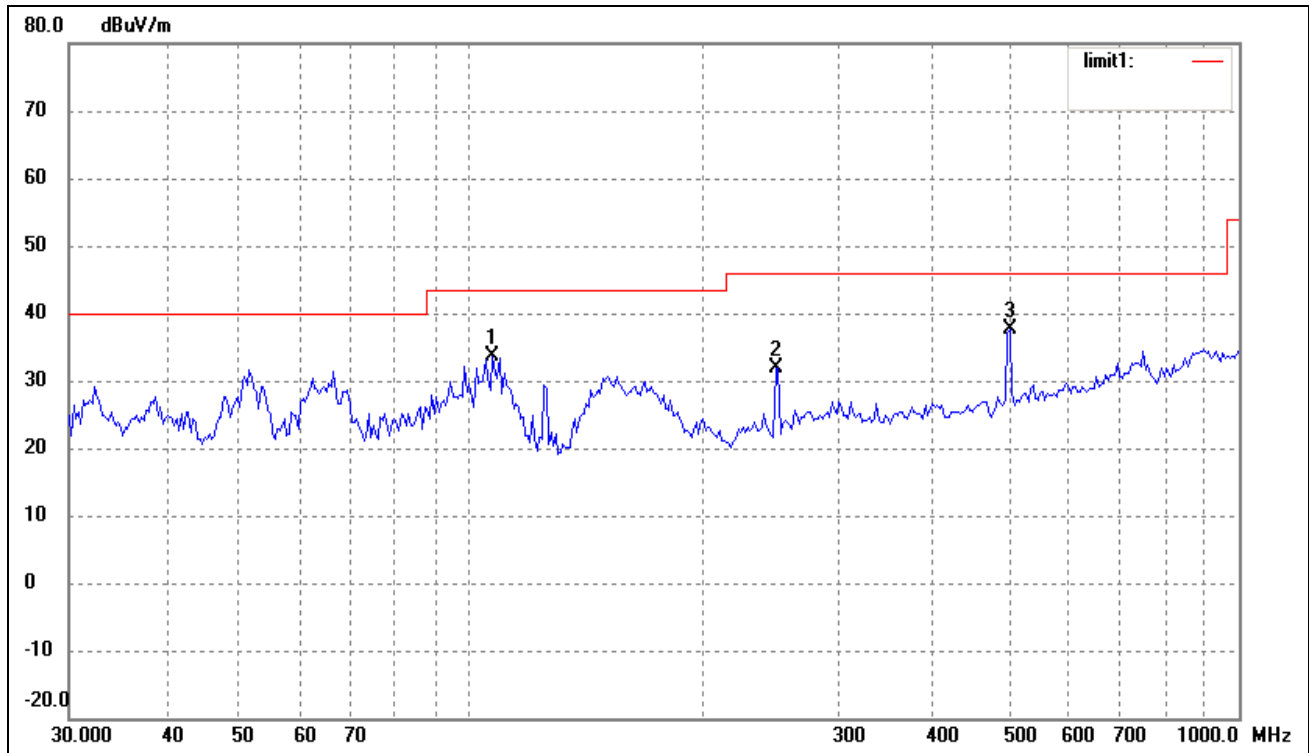


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	106.7587	28.84	6.18	35.02	43.50	-8.48	215	100	QP
2	251.1804	25.75	7.34	33.09	46.00	-12.91	270	100	QP
3	499.4247	23.08	12.18	35.26	46.00	-10.74	3	100	QP

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* ADSL Home Gateway*Tested Model:* HG-A800 V1.5*Operating Condition:* 802.11b Transmitting Low Channel-2412MHz (Chain 1)*Comment:* AC 120V/60Hz; adapter DC 12V*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	24.76	6.39	31.15	43.50	-12.35	215	100	peak
2	251.1804	28.85	7.34	36.19	46.00	-9.81	360	100	peak
3	499.4247	30.72	12.18	42.90	46.00	-3.10	225	100	peak

Test Specification: Vertical

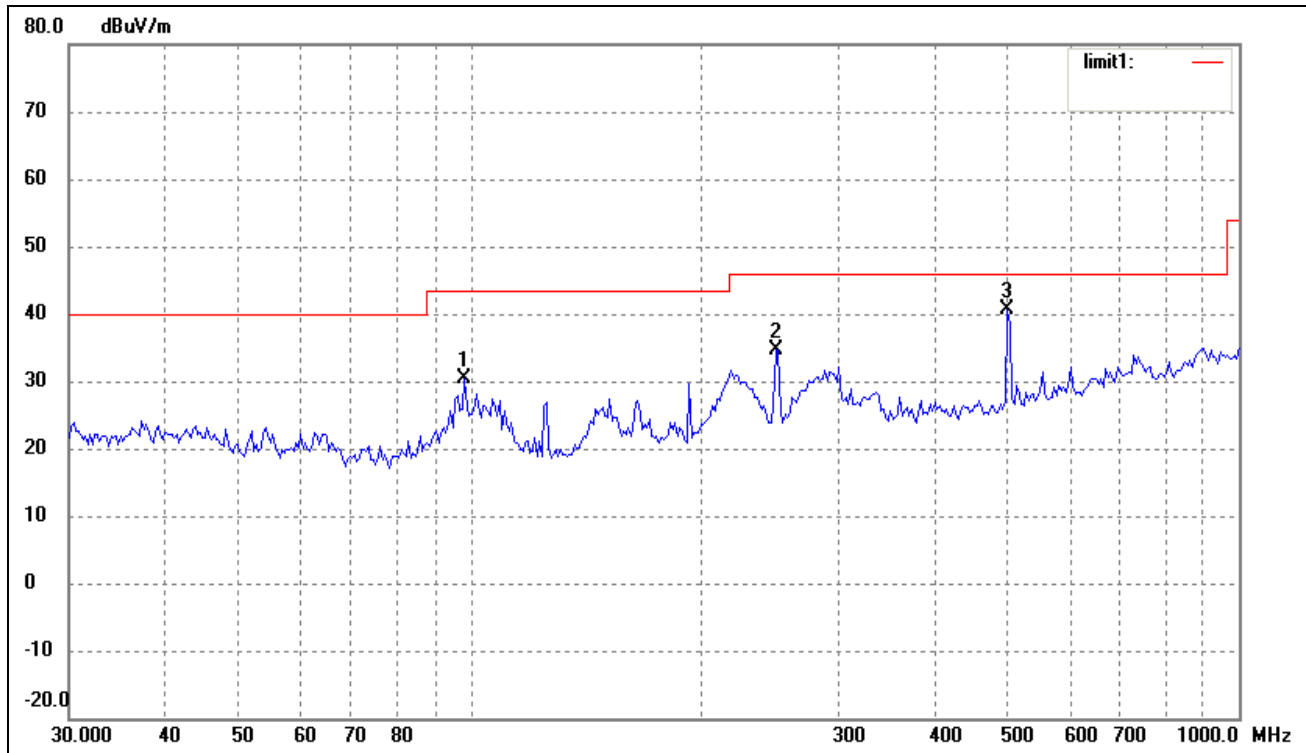


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	106.7587	27.36	6.18	33.54	43.50	-9.96	360	100	peak
2	249.4250	24.65	7.27	31.92	46.00	-14.08	24	100	peak
3	502.9395	25.21	12.30	37.51	46.00	-8.49	64	100	peak

Operating Condition: 802.11b Transmitting Middle Channel-2437MHz (Chain 1)

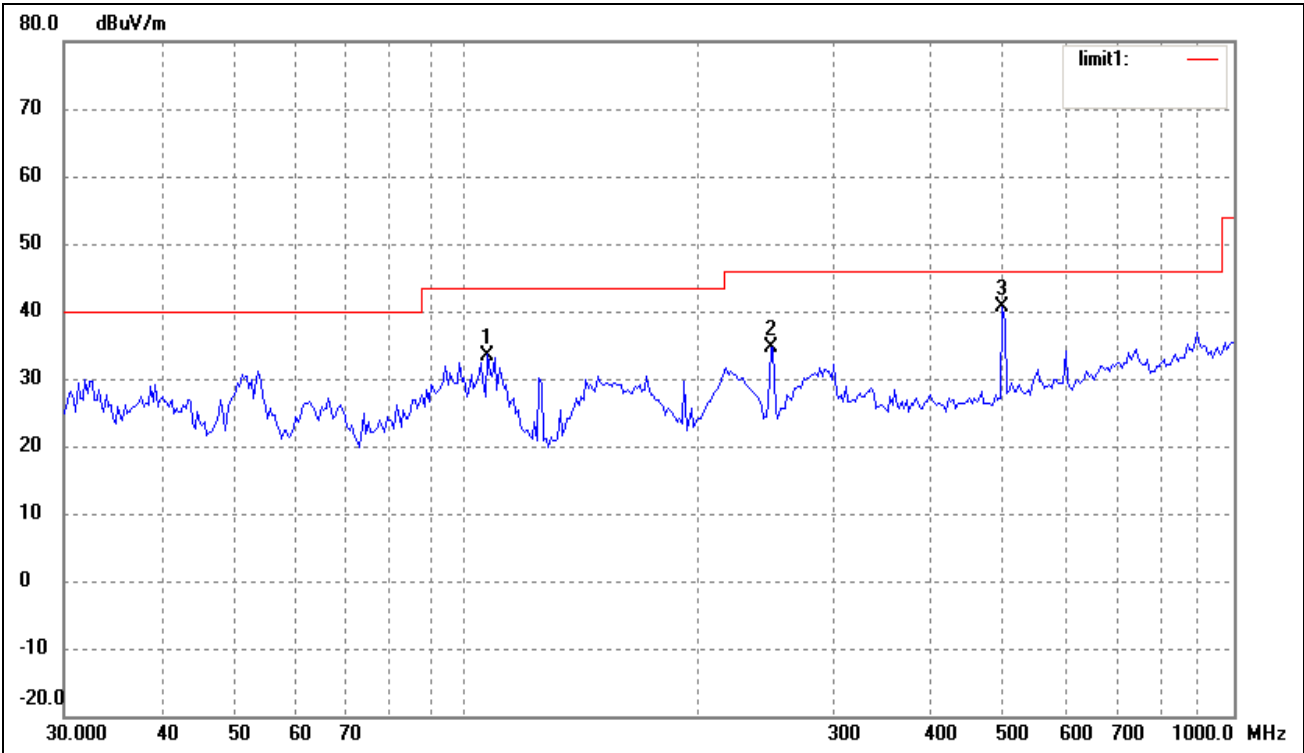
Comment: AC 120V/60Hz, adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	24.08	6.39	30.47	43.50	-13.03	266	100	peak
2	249.4250	27.47	7.27	34.74	46.00	-11.26	31	100	peak
3	499.4247	28.46	12.18	40.64	46.00	-5.36	45	100	peak

Test Specification: Vertical

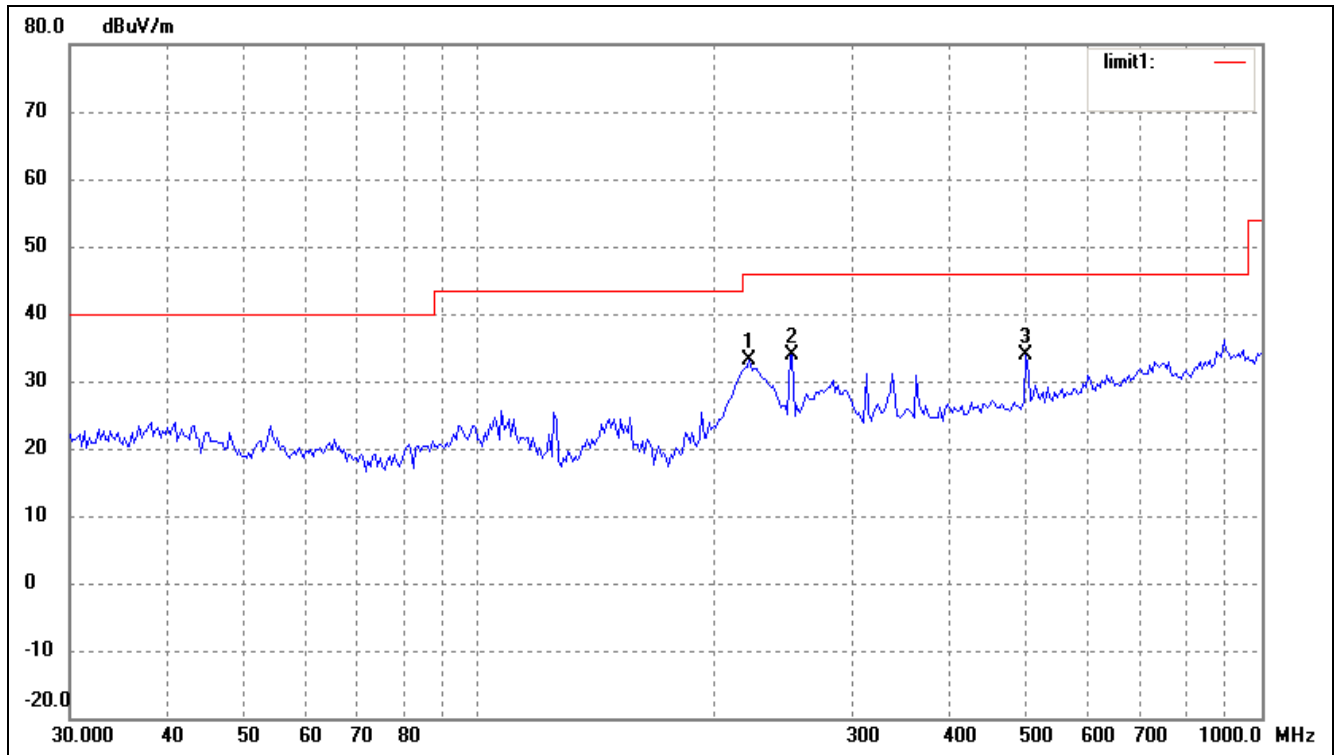


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	106.7587	27.32	6.18	33.50	43.50	-10.00	36	100	peak
2	249.4250	27.47	7.27	34.74	46.00	-11.26	24	100	peak
3	499.4247	28.46	12.18	40.64	46.00	-5.36	322	100	peak

Operating Condition: 802.11b Transmitting Highest Channel-2462MHz (Chain 1)

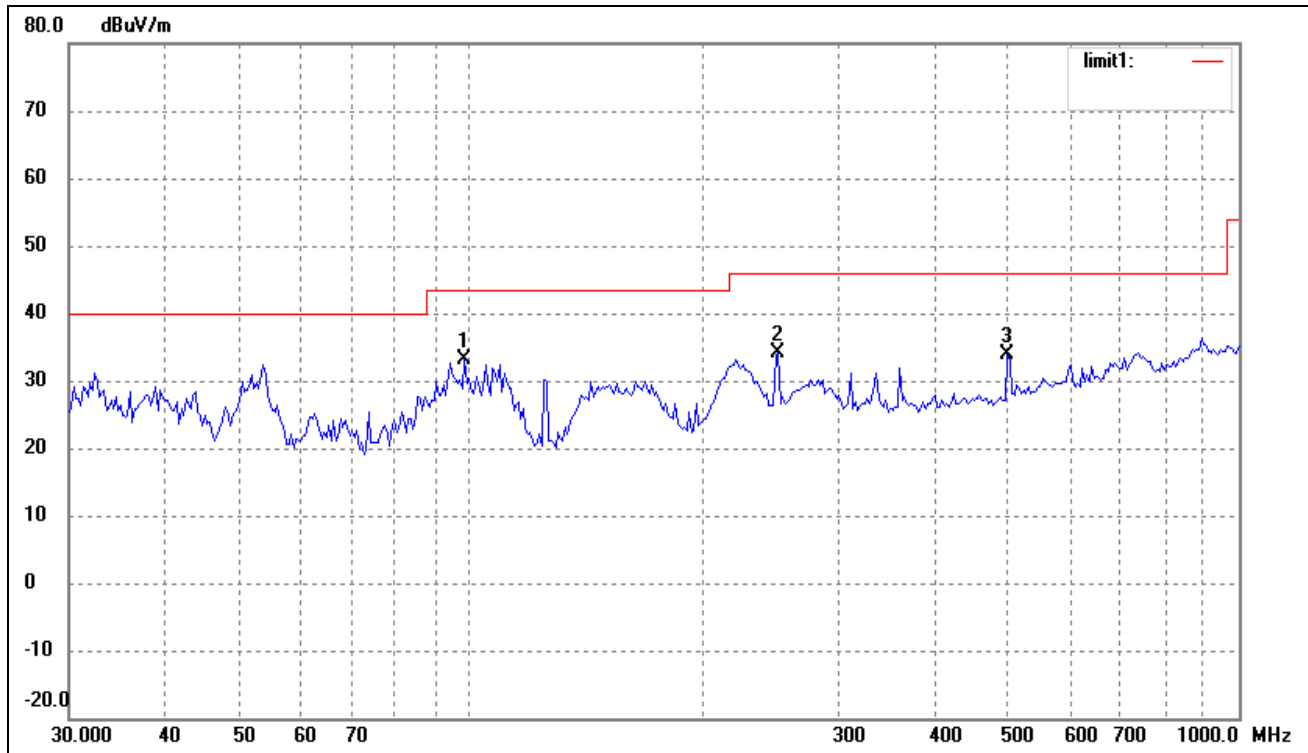
Comment: AC 120V/60Hz; adapter DC 12V

Test Specification: Horizontal

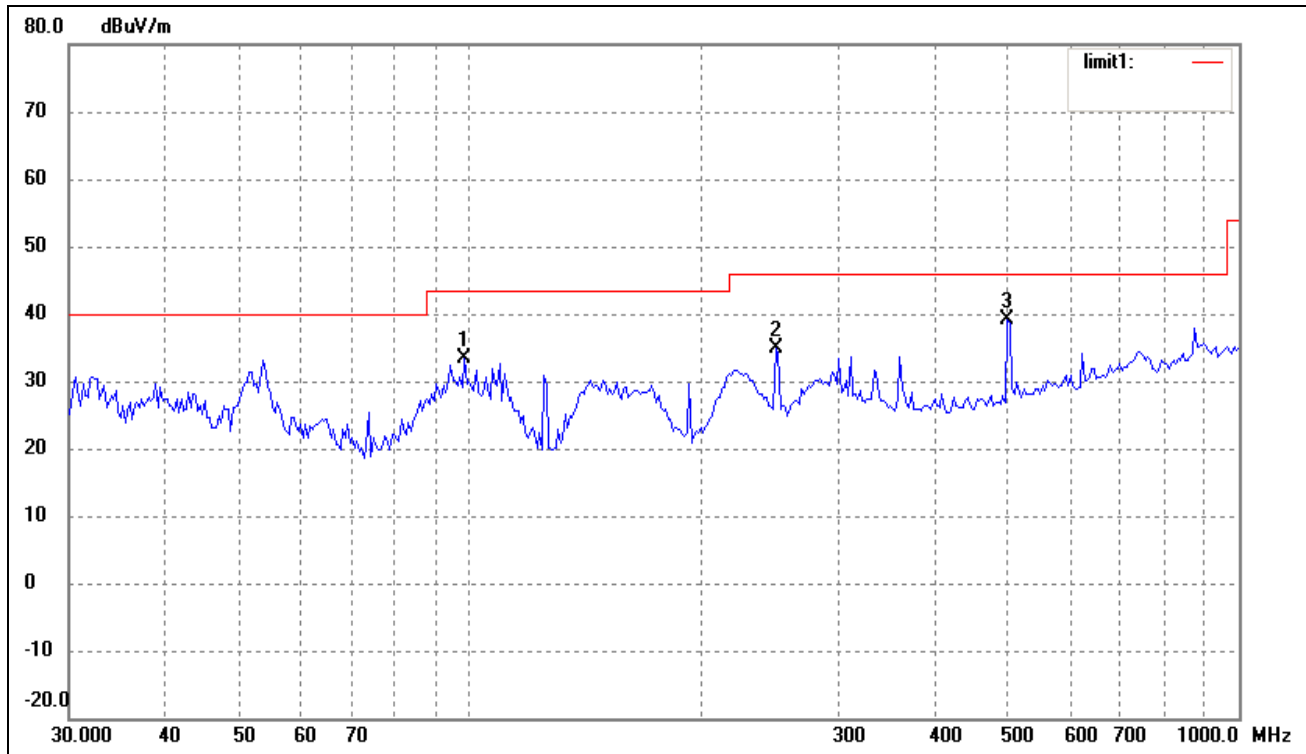


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	221.3921	27.22	6.00	33.22	46.00	-12.78	360	100	peak
2	251.1804	26.44	7.34	33.78	46.00	-12.22	255	100	peak
3	499.4247	21.62	12.18	33.80	46.00	-12.20	64	100	peak

Test Specification: Vertical

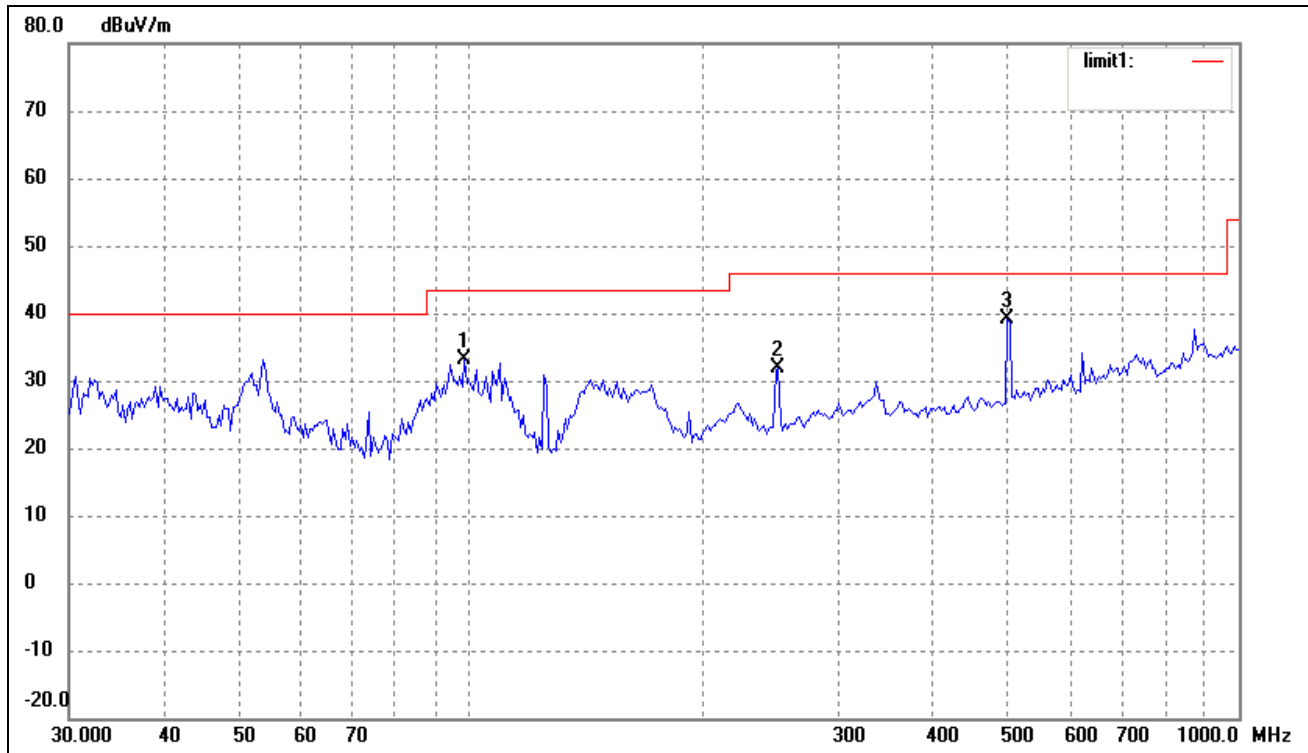


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	26.63	6.39	33.02	43.50	-10.48	215	100	peak
2	251.1804	26.79	7.34	34.13	46.00	-11.87	270	100	peak
3	499.4247	21.62	12.18	33.80	46.00	-12.20	3	100	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* ADSL Home Gateway*Tested Model:* HG-A800 V1.5*Operating Condition:* 802.11g Transmitting Low Channel-2412MHz(Chain 0)*Comment:* AC 120V/60Hz; adapter DC 12V*Test Specification:* Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	98.1419	26.94	6.39	33.33	43.50	-10.17	256	100	peak
2	249.4250	27.57	7.27	34.84	46.00	-11.16	305	100	peak
3	499.4247	27.06	12.18	39.24	46.00	-6.76	147	100	peak

Test Specification: Vertical

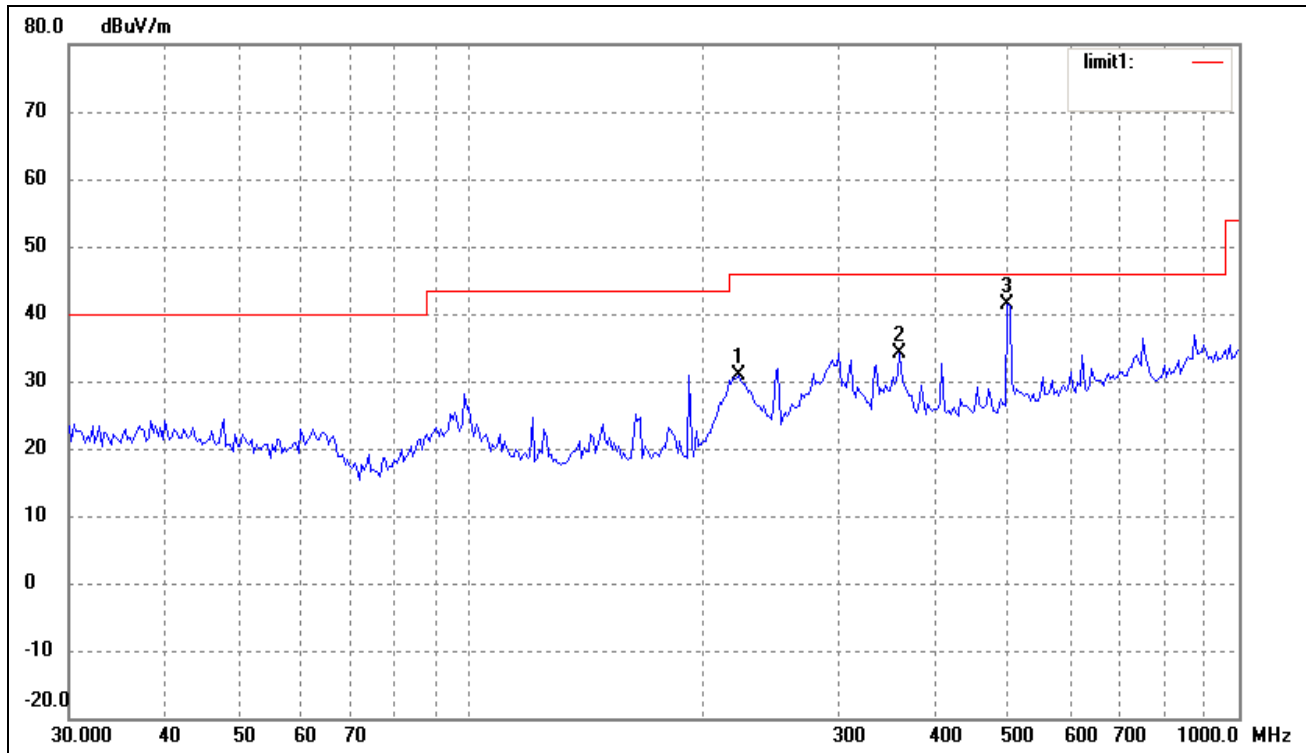


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	26.83	6.39	33.22	43.50	-10.28	253	100	peak
2	251.1804	24.58	7.34	31.92	46.00	-14.08	36	100	peak
3	499.4247	27.06	12.18	39.24	46.00	-6.76	44	100	peak

Operating Condition: 802.11g Transmitting Middle Channel-2437MHz (Chain 0)

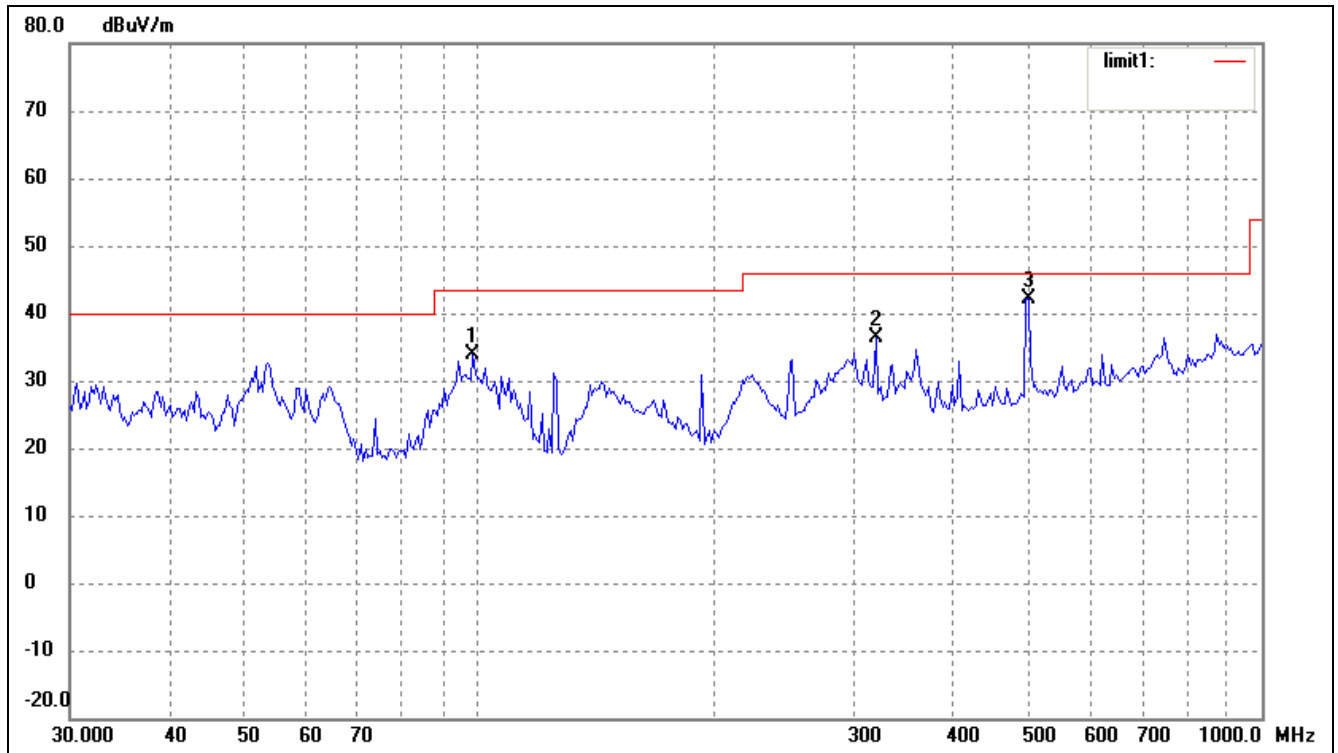
Comment: AC 120V/60Hz, adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	222.9502	24.90	6.08	30.98	46.00	-15.02	253	100	peak
2	361.7139	23.54	10.69	34.23	46.00	-11.77	48	100	peak
3	499.4247	29.20	12.18	41.38	46.00	-4.62	51	100	peak

Test Specification: Vertical

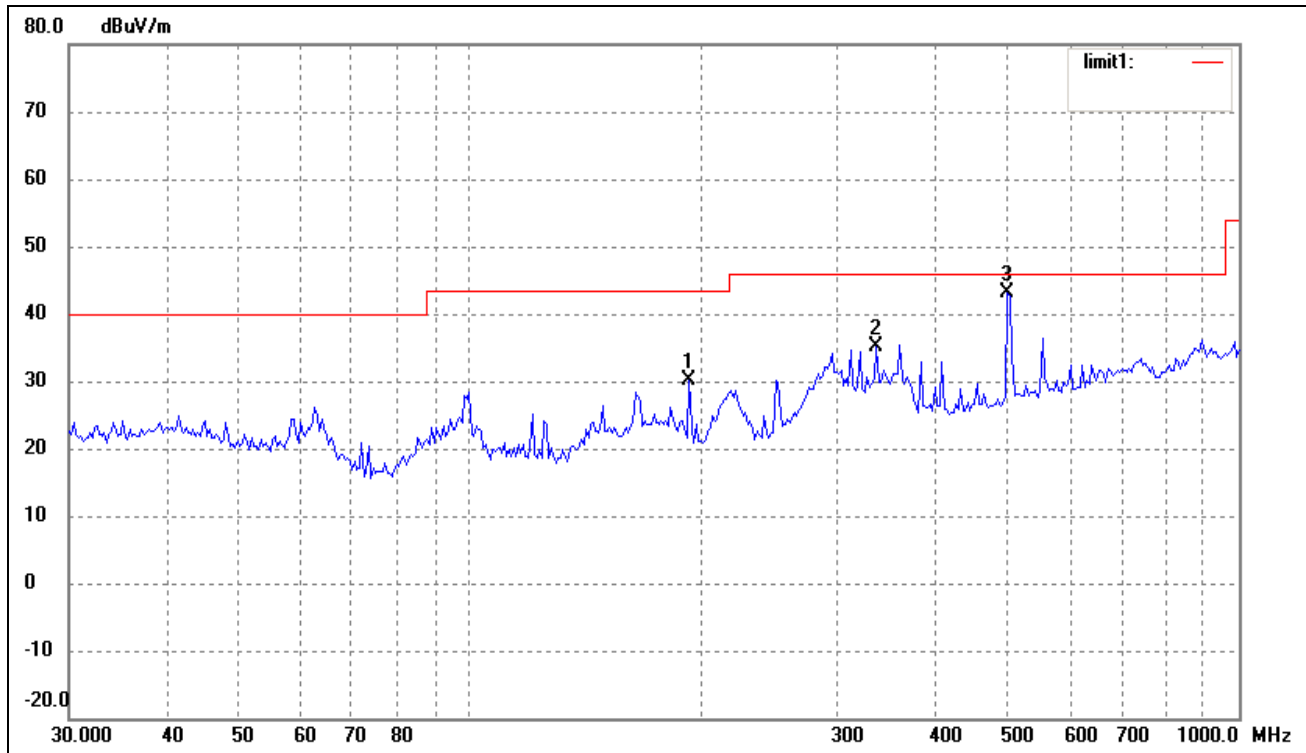


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	27.56	6.39	33.95	43.50	-9.55	360	100	peak
2	321.0608	25.95	10.46	36.41	46.00	-9.59	360	100	peak
3	502.9395	29.88	12.30	42.18	46.00	-3.82	360	100	peak

Operating Condition: 802.11g Transmitting Highest Channel-2462MHz (Chain 0)

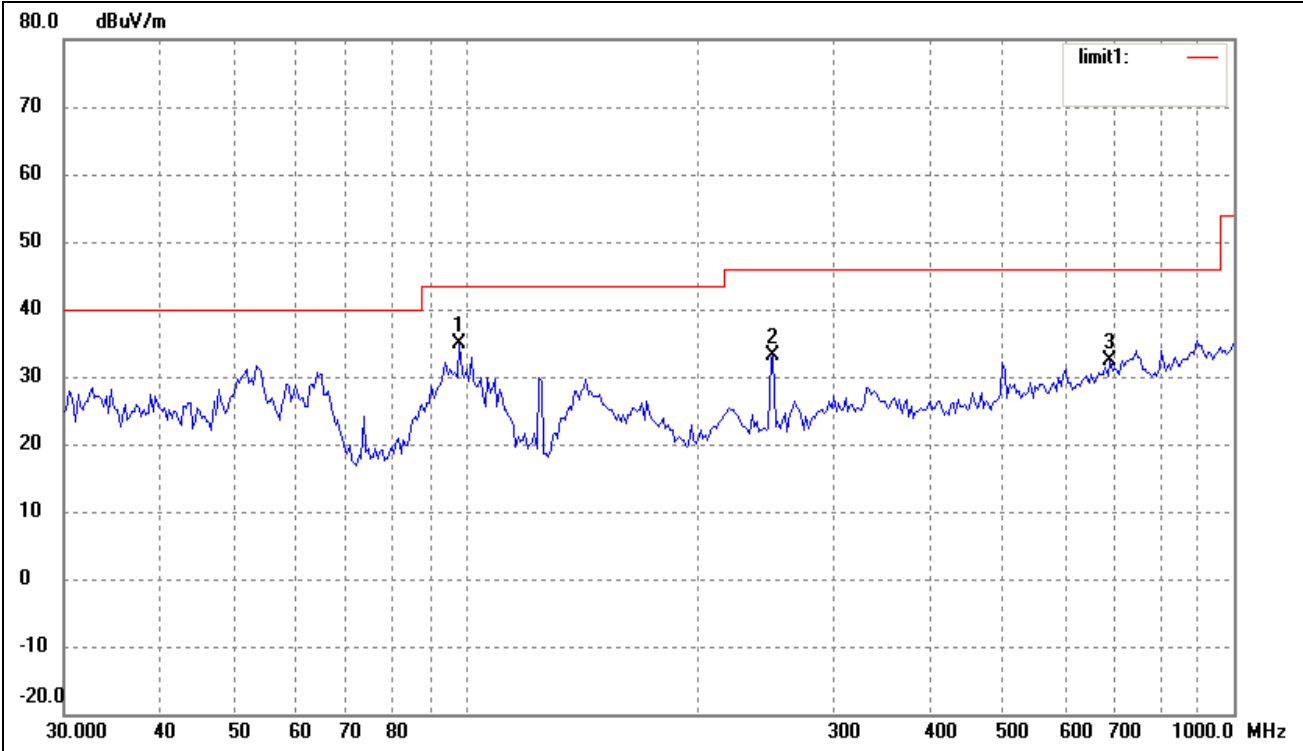
Comment: AC 120V/60Hz; adapter DC 12V

Test Specification: Horizontal

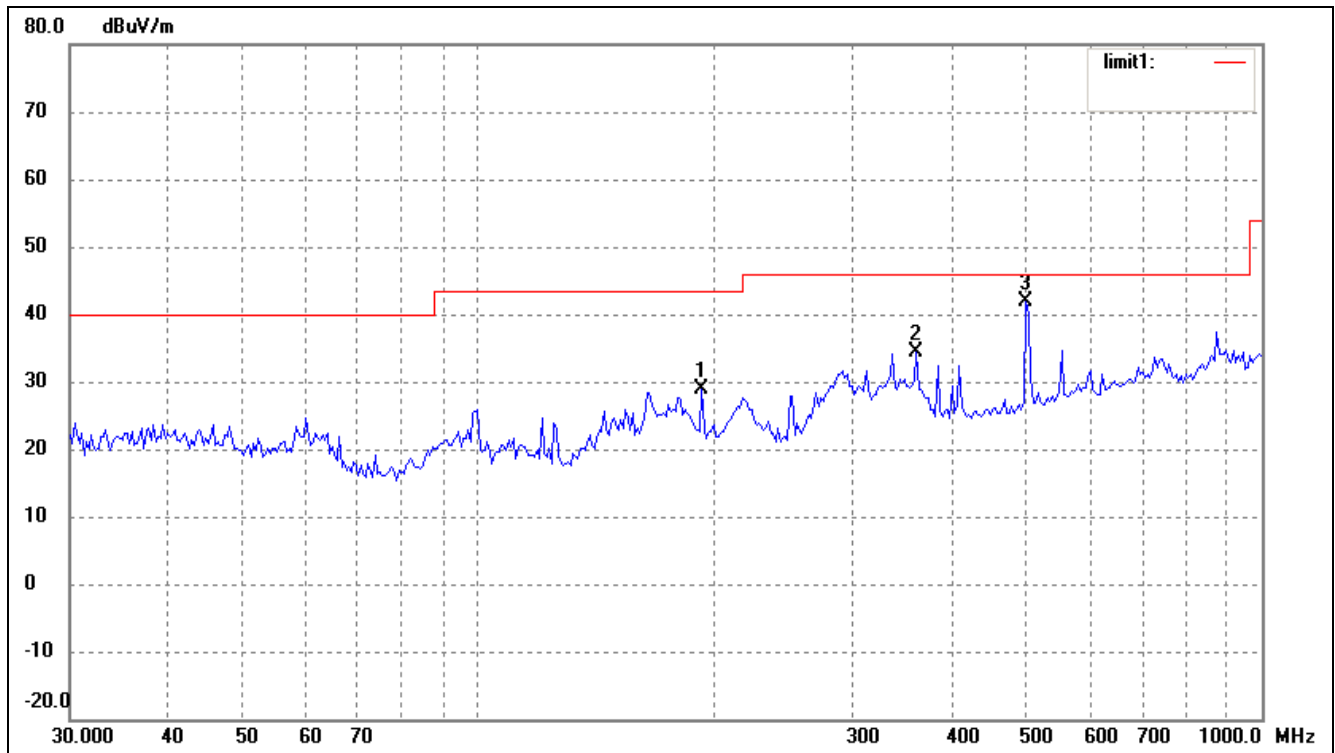


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	192.4186	25.76	4.31	30.07	43.50	-13.43	36	100	peak
2	337.2155	24.94	10.14	35.08	46.00	-10.92	25	100	peak
3	499.4247	30.96	12.18	43.14	46.00	-2.86	136	100	peak

Test Specification: Vertical

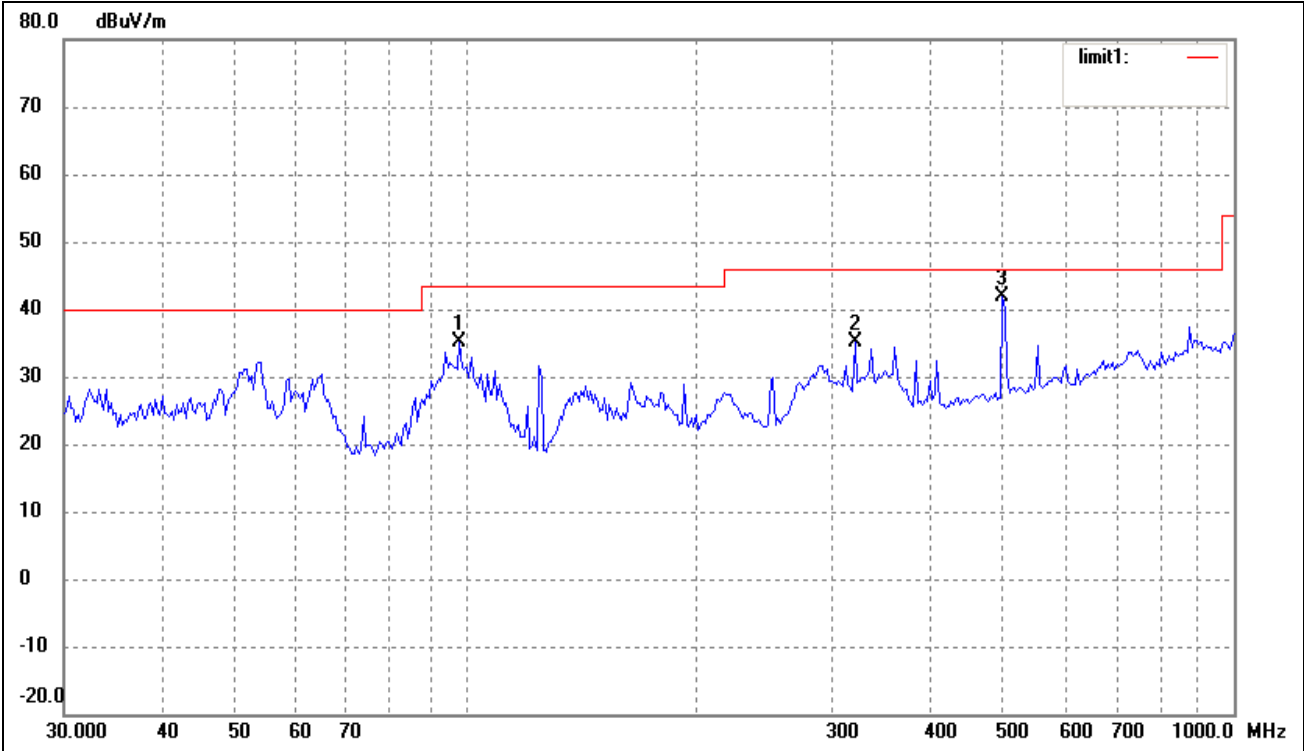


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	98.1419	28.38	6.39	34.77	43.50	-8.73	214	100	QP
2	251.1804	25.91	7.34	33.25	46.00	-12.75	23	100	QP
3	689.5644	16.73	15.64	32.37	46.00	-13.63	54	100	QP

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* ADSL Home Gateway*Tested Model:* HG-A800 V1.5*Operating Condition:* 802.11g Transmitting Low Channel-2412MHz(Chain 1)*Comment:* AC 120V/60Hz; adapter DC 12V*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	192.4186	24.45	4.31	28.76	43.50	-14.74	227	100	peak
2	361.7139	23.67	10.69	34.36	46.00	-11.64	360	100	peak
3	499.4247	29.72	12.18	41.90	46.00	-4.10	240	100	peak

Test Specification: Vertical

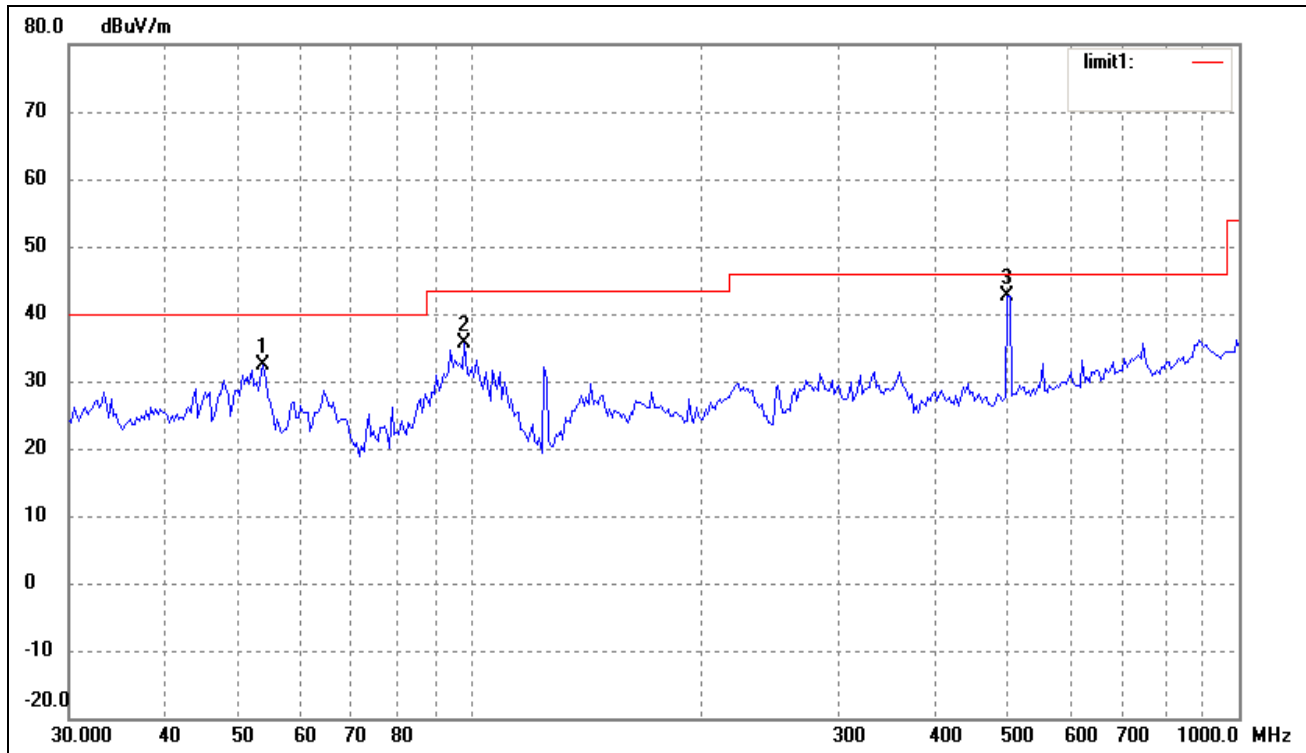


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	98.1419	28.84	6.39	35.23	43.50	-8.27	360	100	peak
2	321.0608	24.60	10.46	35.06	46.00	-10.94	272	100	peak
3	499.4247	29.72	12.18	41.90	46.00	-4.10	180	100	peak

Operating Condition: 802.11g Transmitting Middle Channel-2437MHz (Chain 1)

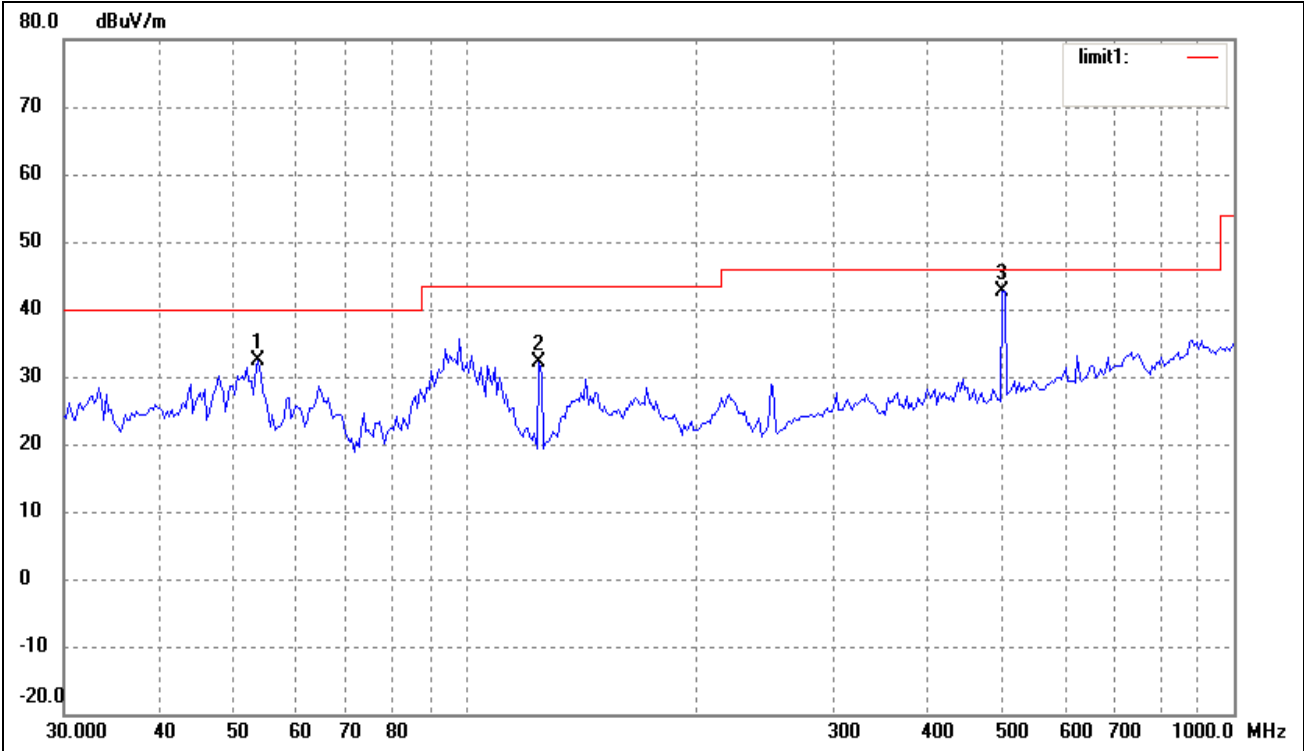
Comment: AC 120V/60Hz, adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	53.6932	26.22	6.28	32.50	40.00	-7.50	226	100	peak
2	98.1419	29.23	6.39	35.62	43.50	-7.88	360	100	peak
3	499.4247	30.52	12.18	42.70	46.00	-3.30	54	100	peak

Test Specification: Vertical

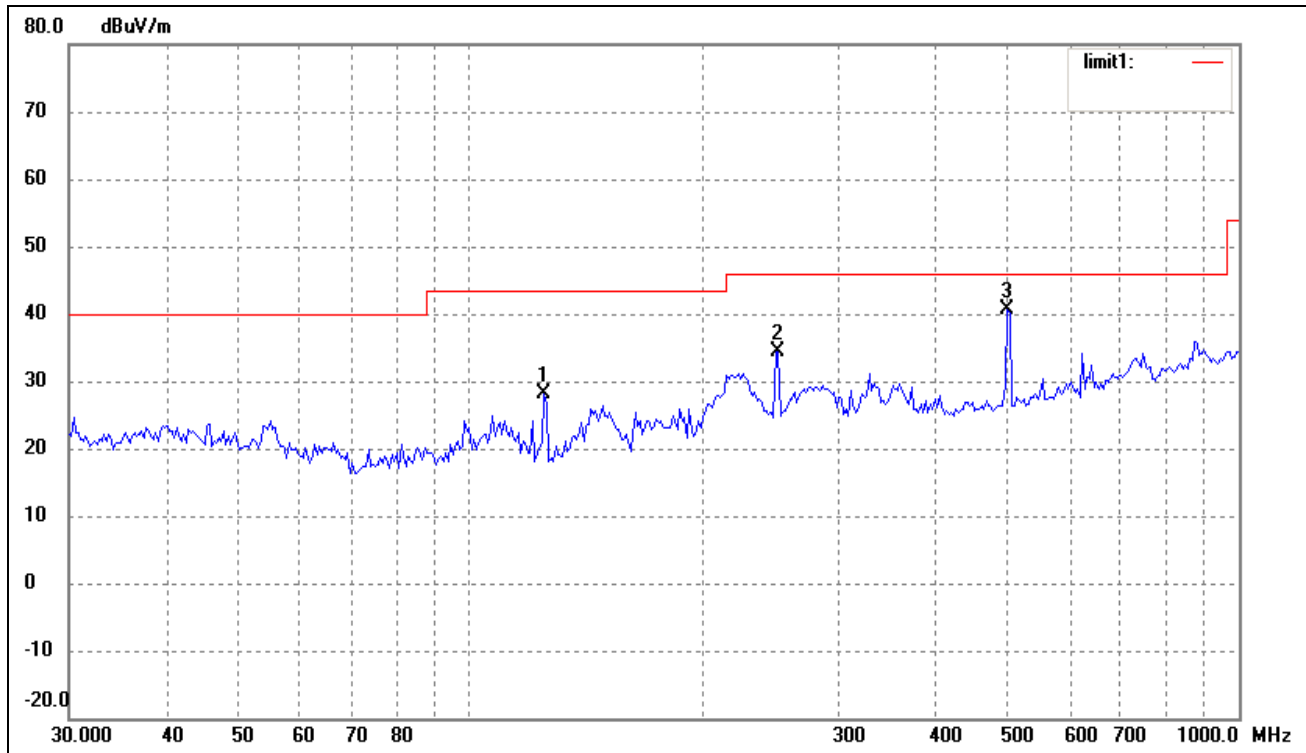


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	53.6932	26.22	6.28	32.50	40.00	-7.50	147	100	peak
2	124.5690	27.54	4.53	32.07	43.50	-11.43	336	100	peak
3	499.4247	30.52	12.18	42.70	46.00	-3.30	90	100	peak

Operating Condition: 802.11g Transmitting Highest Channel-2462MHz (Chain 1)

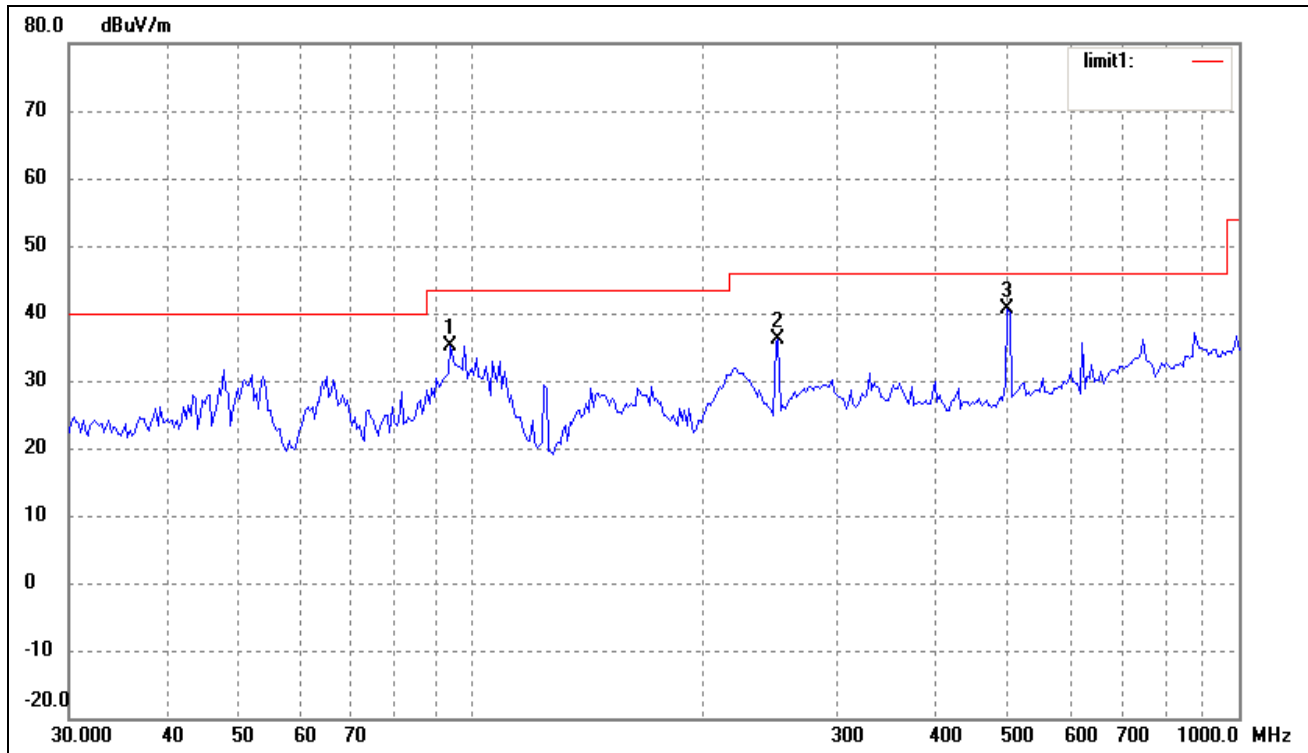
Comment: AC 120V/60Hz; adapter DC 12V

Test Specification: Horizontal

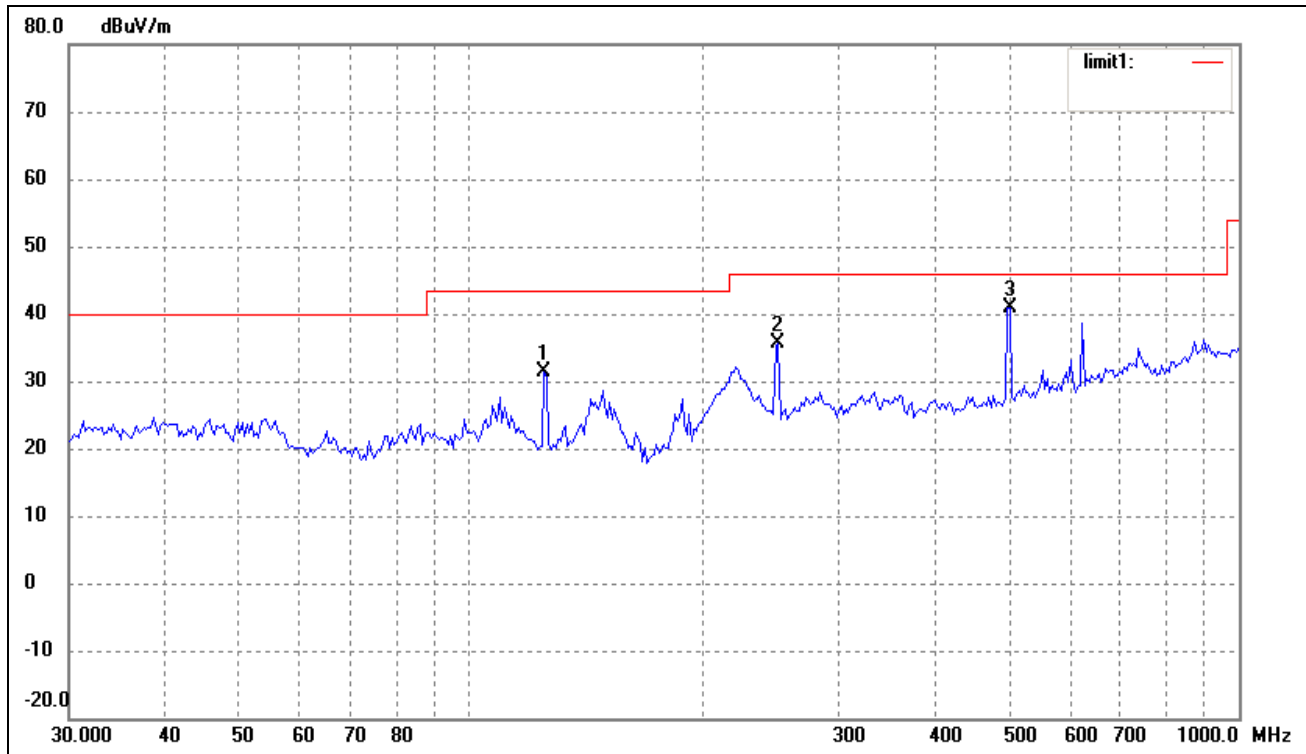


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	124.5690	23.54	4.53	28.07	43.50	-15.43	227	100	peak
2	251.1804	27.03	7.34	34.37	46.00	-11.63	146	100	peak
3	499.4247	28.46	12.18	40.64	46.00	-5.36	360	100	peak

Test Specification: Vertical

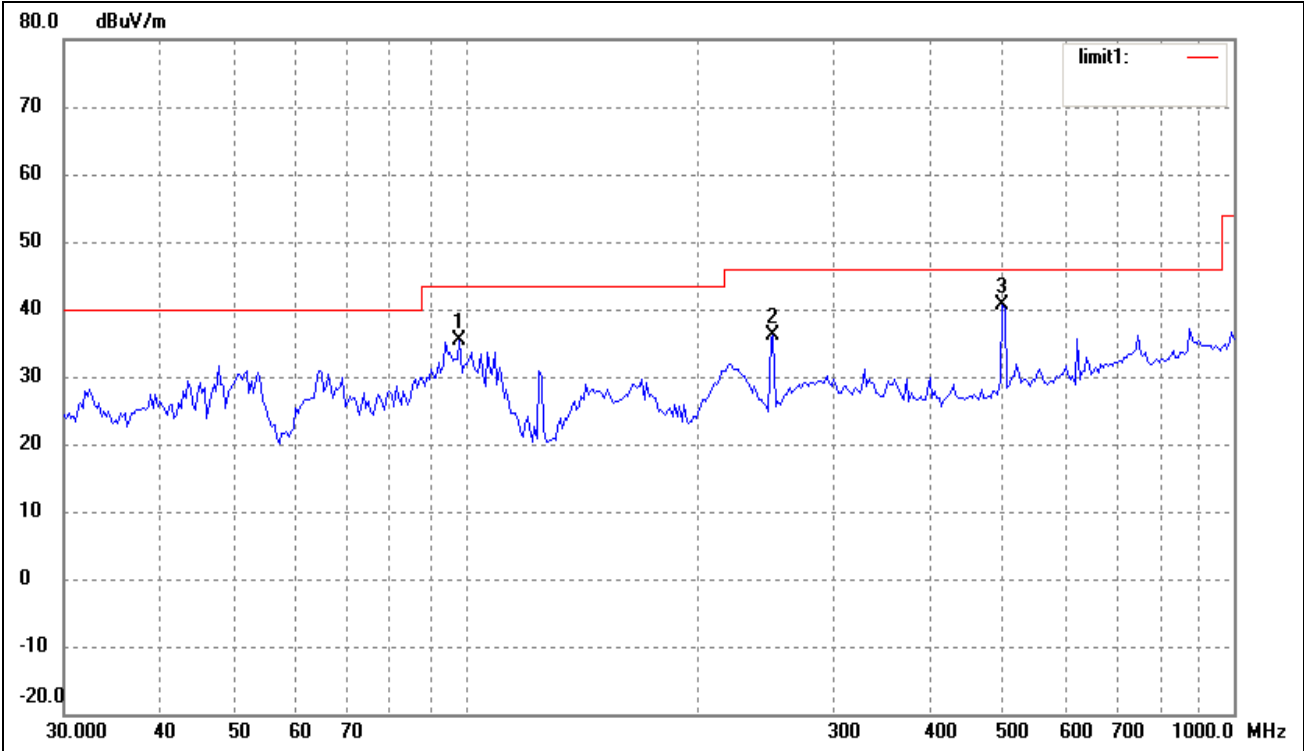


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	94.0979	29.88	5.37	35.25	43.50	-8.25	258	100	peak
2	251.1804	28.77	7.34	36.11	46.00	-9.89	360	100	peak
3	499.4247	28.46	12.18	40.64	46.00	-5.36	117	100	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* ADSL Home Gateway*Tested Model:* HG-A800 V1.5*Operating Condition:* 802.11n/HT20 Transmitting Low Channel-2412MHz*Comment:* AC 120V/60Hz; adapter DC 12V*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	124.5690	26.95	4.53	31.48	43.50	-12.02	145	100	peak
2	251.1804	28.22	7.34	35.56	46.00	-10.44	23	100	peak
3	502.9395	28.59	12.30	40.89	46.00	-5.11	265	100	peak

Test Specification: Vertical

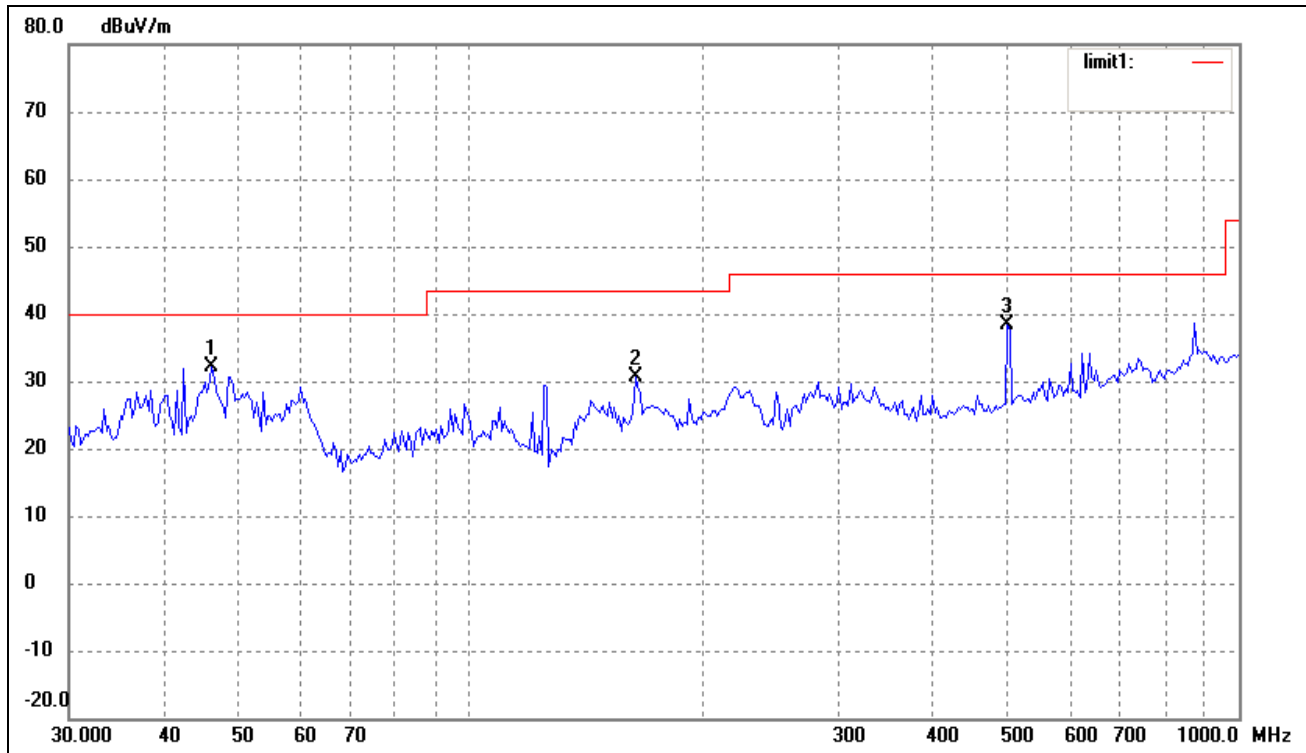


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	98.1419	28.87	6.39	35.26	43.50	-8.24	224	100	peak
2	251.1804	28.77	7.34	36.11	46.00	-9.89	270	100	peak
3	499.4247	28.46	12.18	40.64	46.00	-5.36	360	100	peak

Operating Condition: 802.11n/HT20 Transmitting Middle Channel-2437MHz

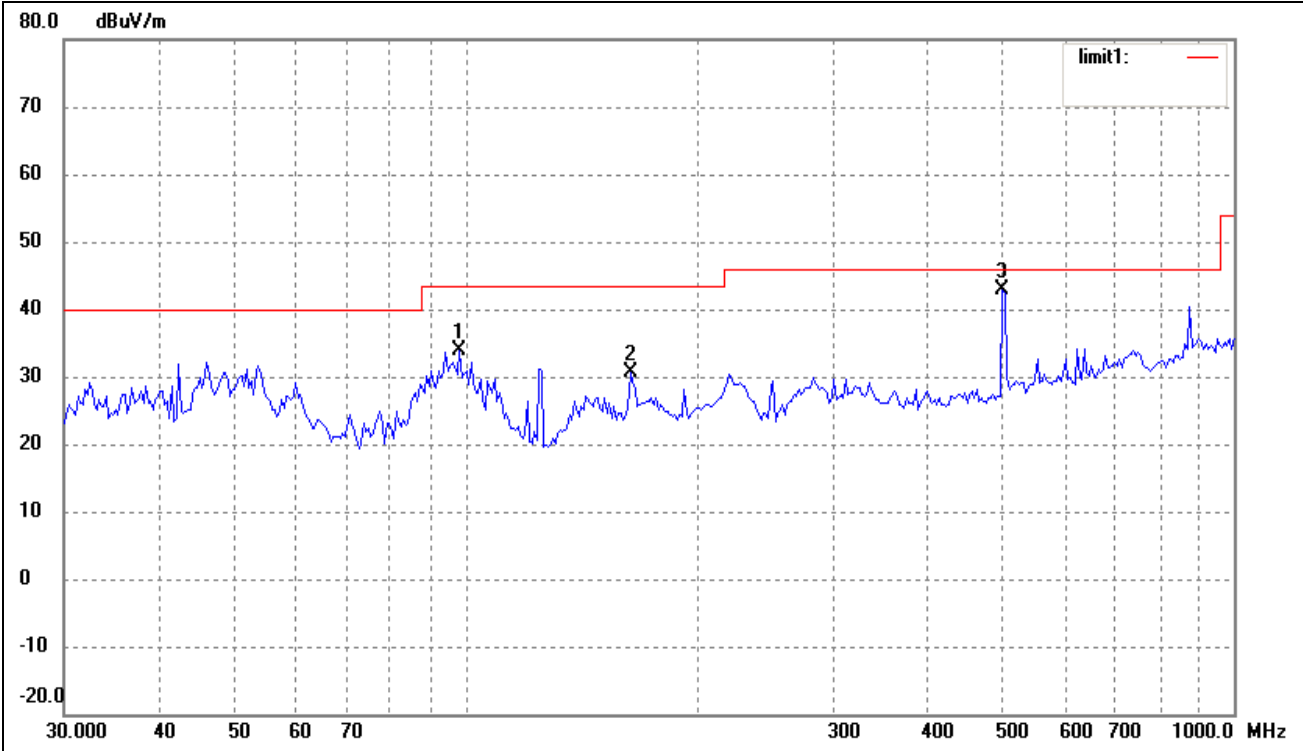
Comment: AC 120V/60Hz, adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	46.0164	24.20	7.85	32.05	40.00	-7.95	360	100	peak
2	163.7550	26.93	3.67	30.60	43.50	-12.90	25	100	peak
3	499.4247	26.08	12.18	38.26	46.00	-7.74	14	100	peak

Test Specification: Vertical

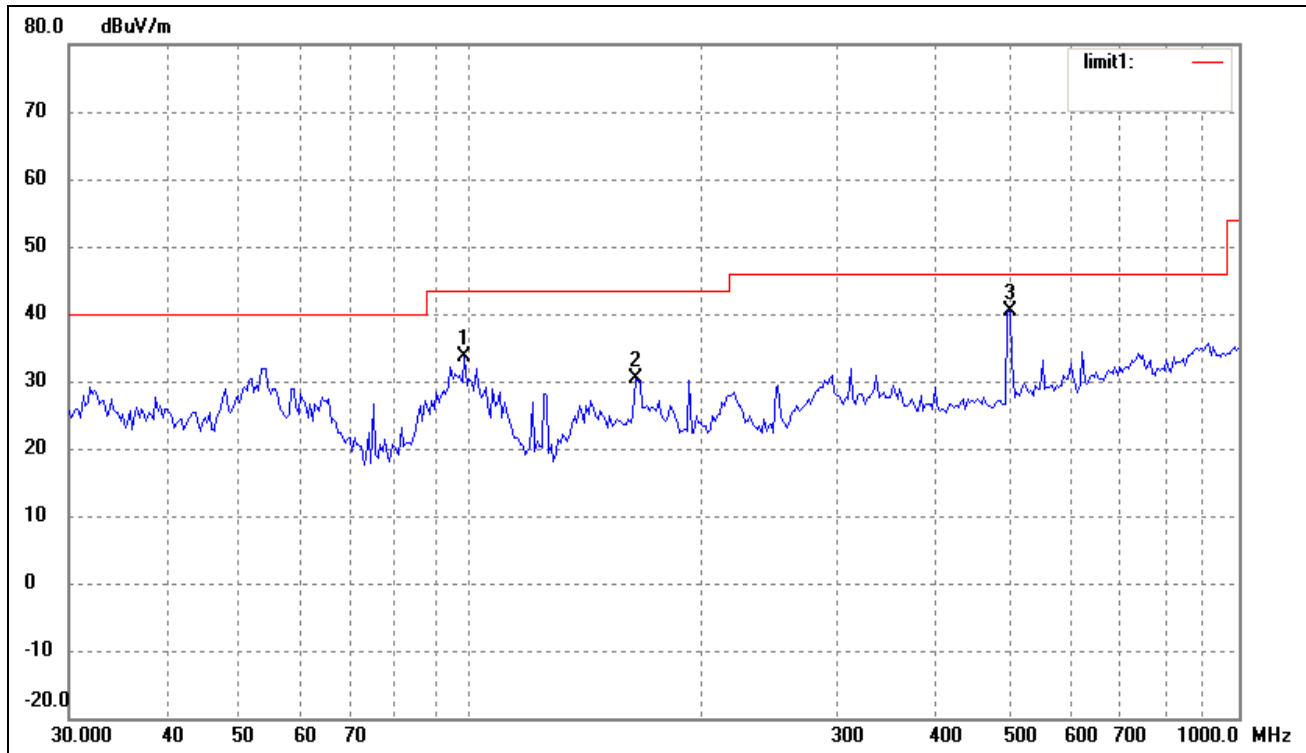


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	98.1419	27.40	6.39	33.79	43.50	-9.71	245	100	peak
2	163.7550	26.93	3.67	30.60	43.50	-12.90	36	100	peak
3	499.4247	30.59	12.18	42.77	46.00	-3.23	155	100	peak

Operating Condition: 802.11n/HT20 Transmitting Highest Channel-2462MHz

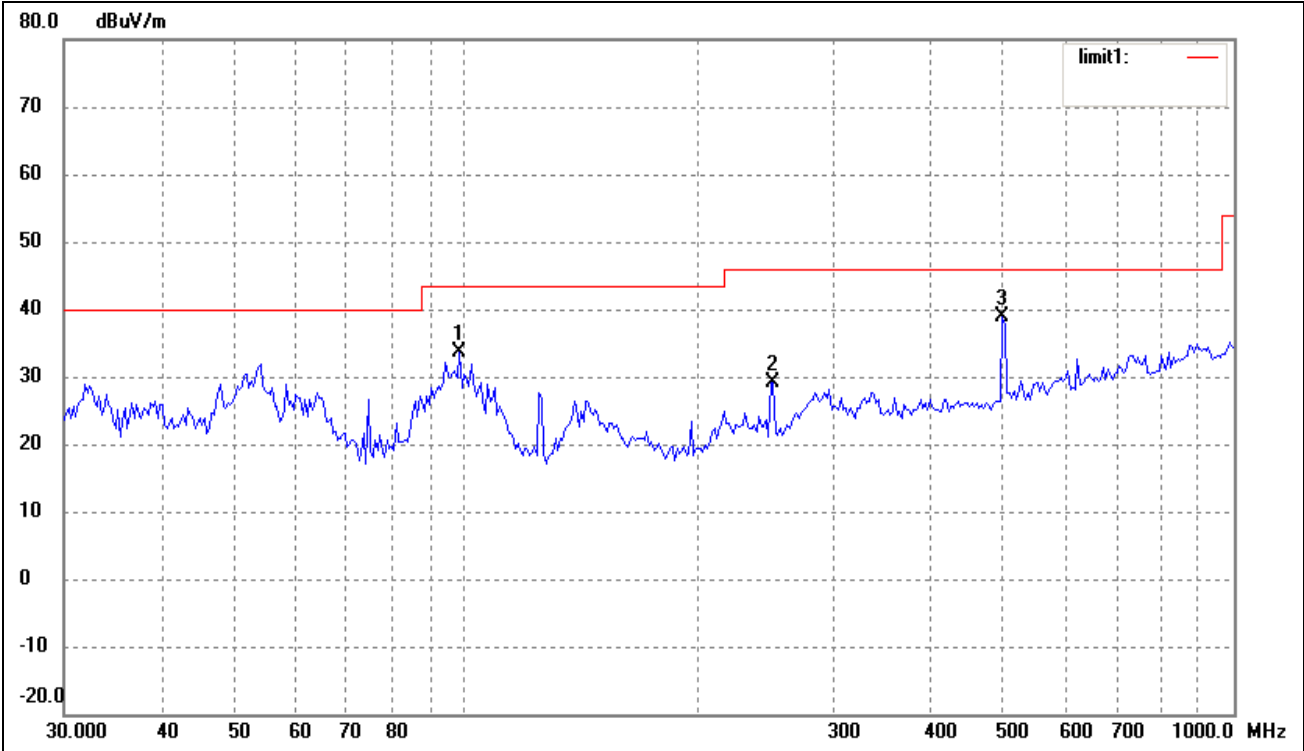
Comment: AC 120V/60Hz; adapter DC 12V

Test Specification: Horizontal

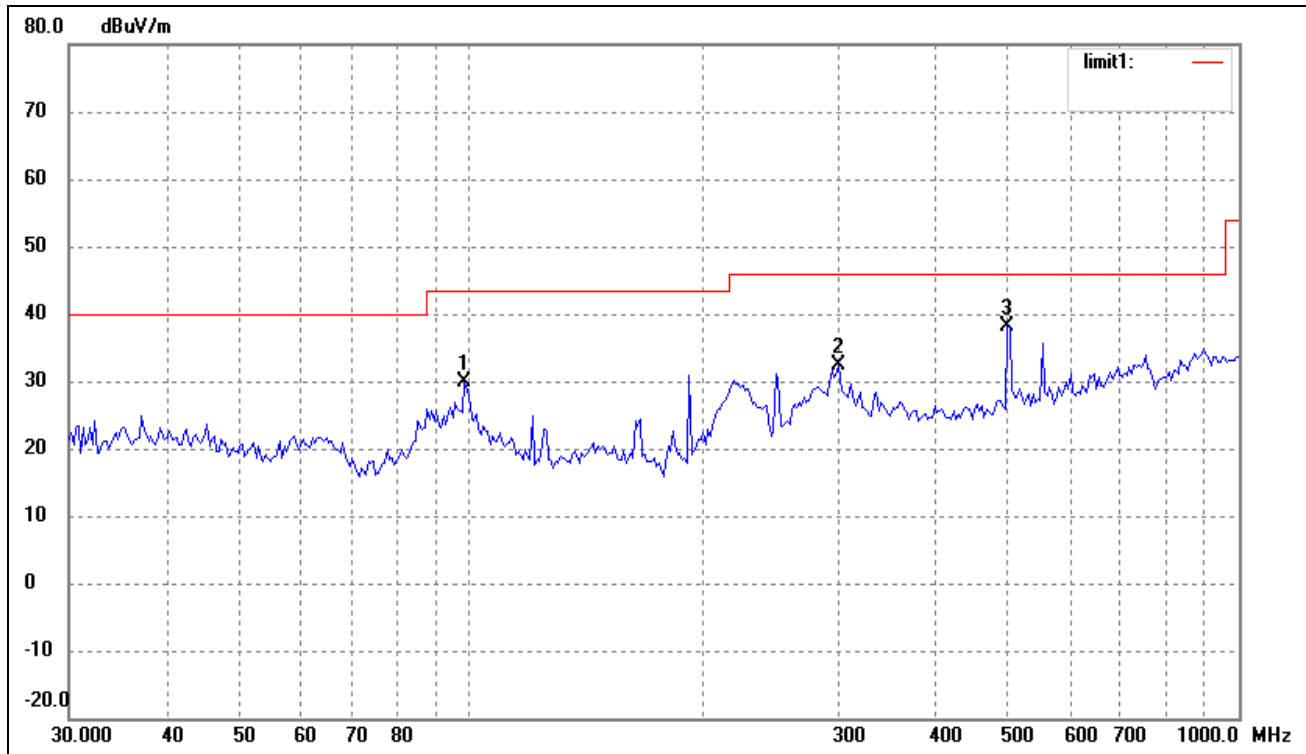


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	27.18	6.39	33.57	43.50	-9.93	253	100	peak
2	163.7550	26.71	3.67	30.38	43.50	-13.12	15	100	peak
3	502.9395	28.19	12.30	40.49	46.00	-5.51	248	100	peak

Test Specification: Vertical

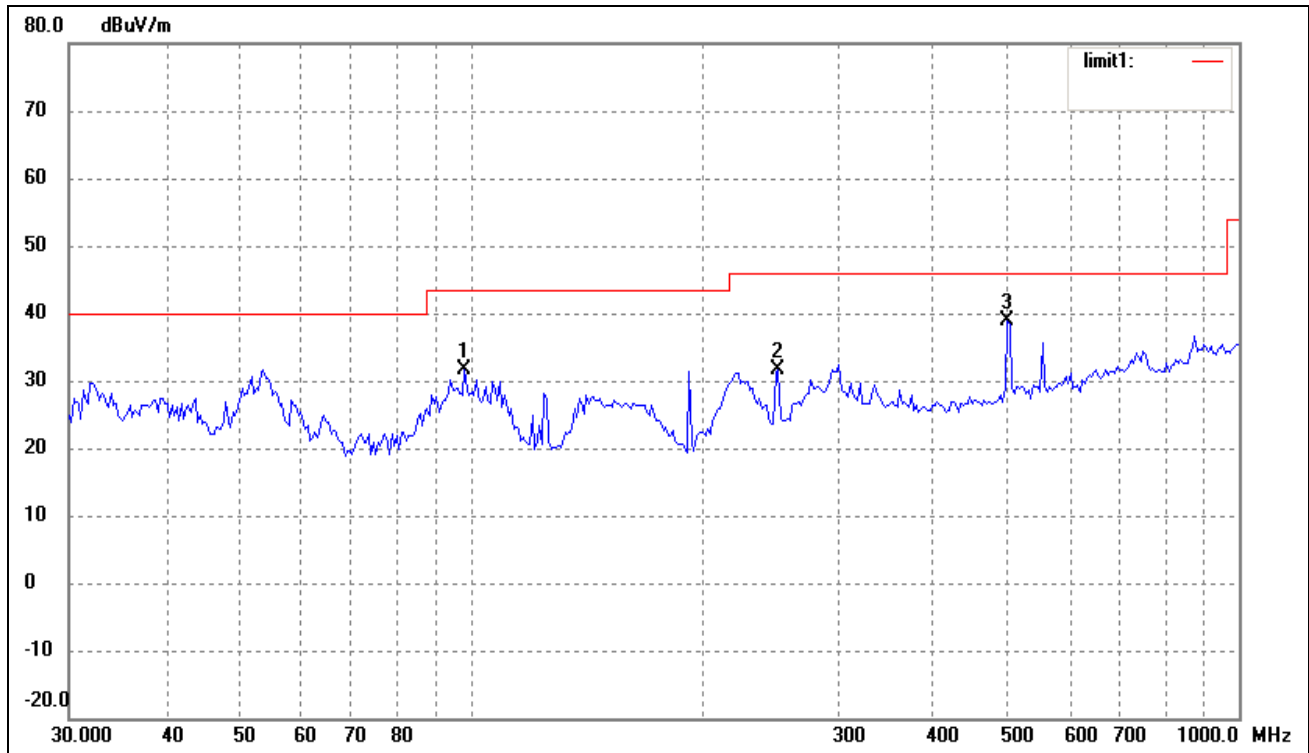


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	98.1419	27.18	6.39	33.57	43.50	-9.93	255	100	peak
2	251.1804	21.83	7.34	29.17	46.00	-16.83	360	100	peak
3	499.4247	26.76	12.18	38.94	46.00	-7.06	277	100	peak

Plot of Radiated Emissions Test Data (30MHz to 1GHz)*EUT:* ADSL Home Gateway*Tested Model:* HG-A800 V1.5*Operating Condition:* 802.11n/HT40 Transmitting Low Channel-2422MHz*Comment:* AC 120V/60Hz; adapter DC 12V*Test Specification:* Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	23.47	6.39	29.86	43.50	-13.64	360	100	peak
2	301.4224	22.08	10.20	32.28	46.00	-13.72	214	100	peak
3	499.4247	25.83	12.18	38.01	46.00	-7.99	28	100	peak

Test Specification: Vertical

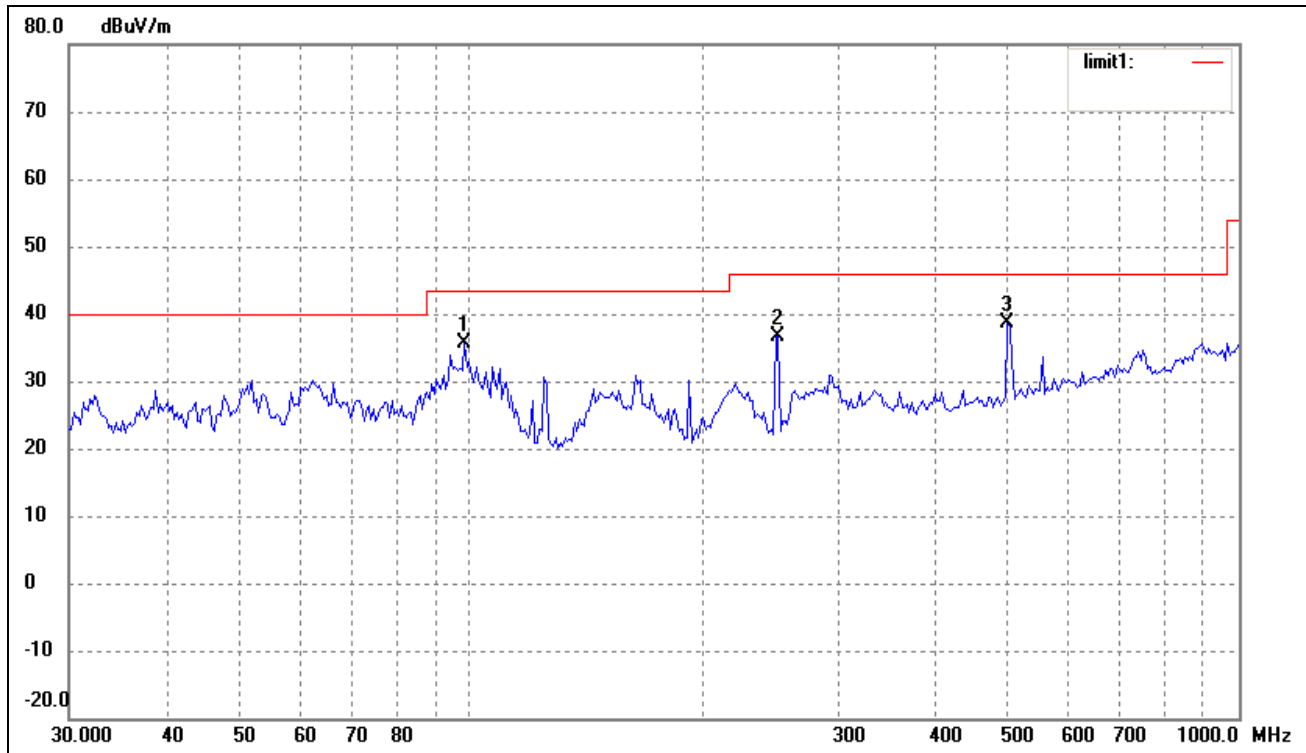


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	25.21	6.39	31.60	43.50	-11.90	360	100	peak
2	251.1804	24.23	7.34	31.57	46.00	-14.43	25	100	peak
3	499.4247	26.58	12.18	38.76	46.00	-7.24	98	100	peak

Operating Condition: 802.11n/HT40 Transmitting Middle Channel-2437MHz

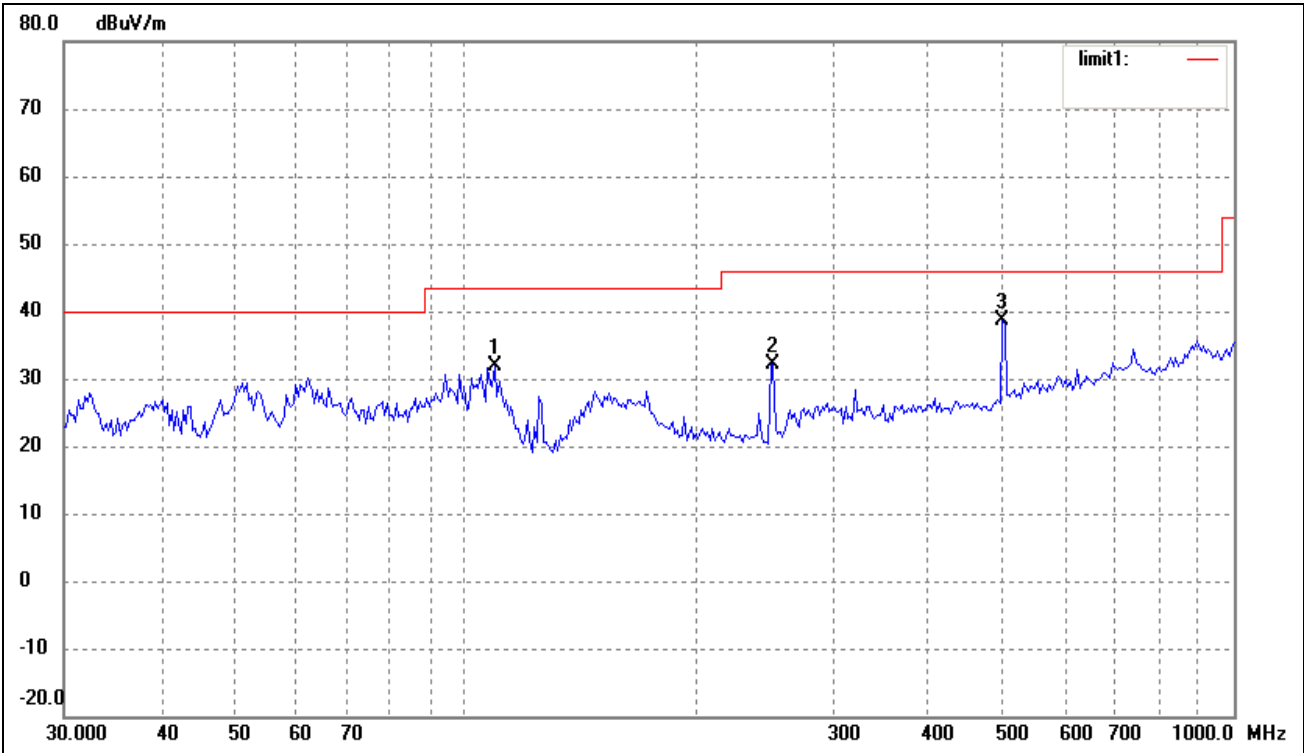
Comment: AC 120V/60Hz, adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	29.34	6.39	35.73	43.50	-7.77	360	100	peak
2	251.1804	29.35	7.34	36.69	46.00	-9.31	25	100	peak
3	499.4247	26.49	12.18	38.67	46.00	-7.33	48	100	peak

Test Specification: Vertical

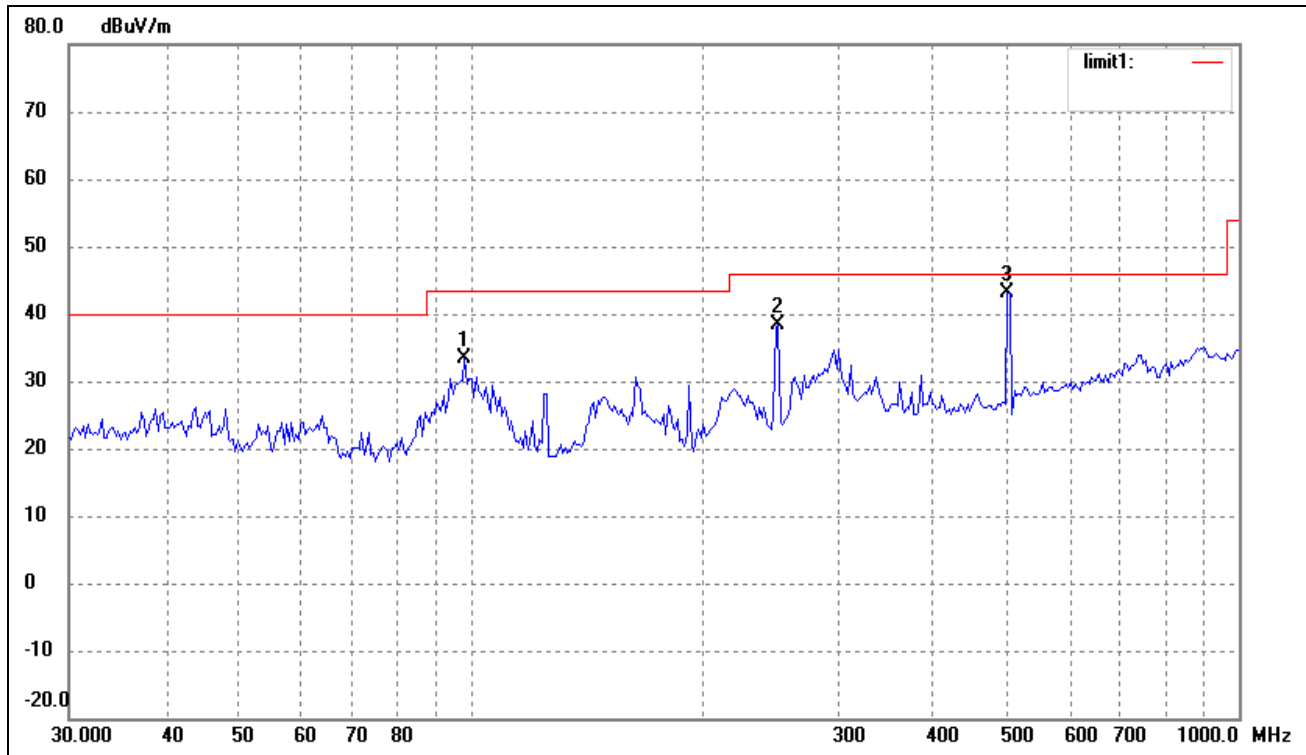


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	109.0286	25.85	5.95	31.80	43.50	-11.70	148	100	peak
2	251.1804	24.81	7.34	32.15	46.00	-13.85	24	100	peak
3	499.4247	26.49	12.18	38.67	46.00	-7.33	79	100	peak

Operating Condition: 802.11n/HT40 Transmitting Highest Channel-2452MHz

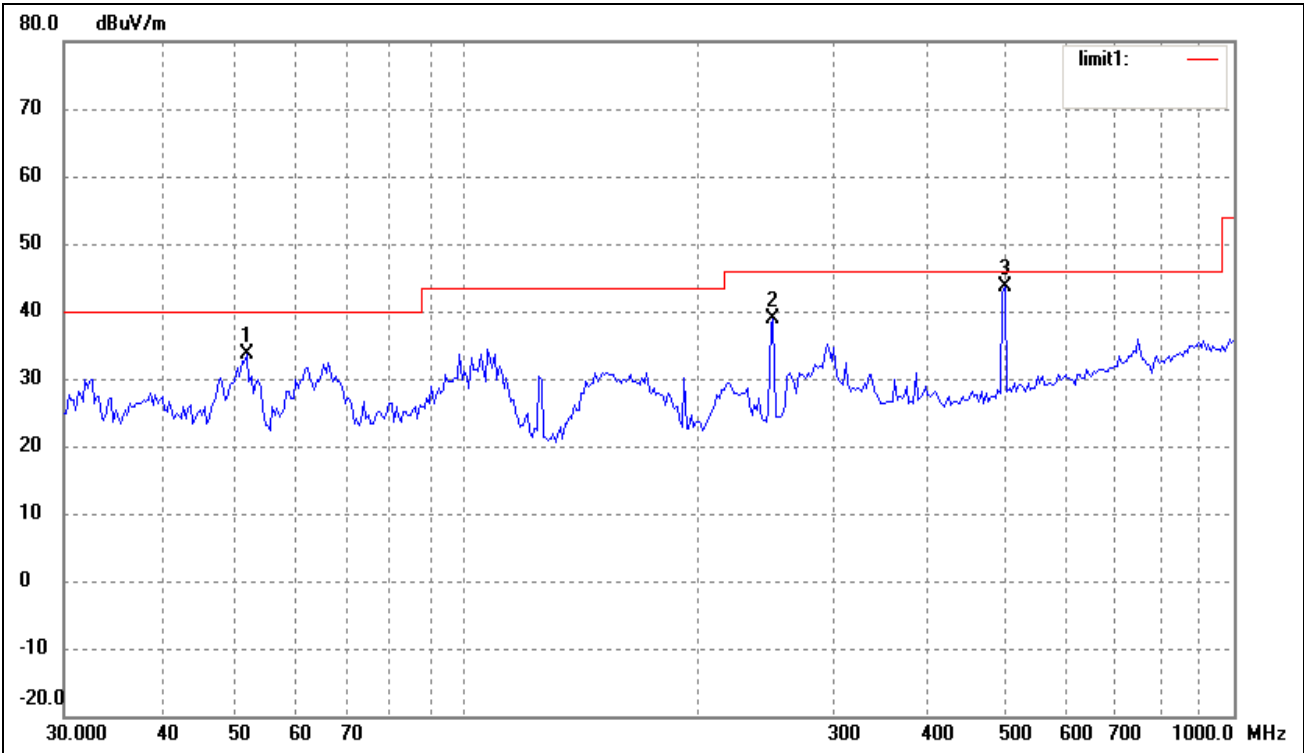
Comment: AC 120V/60Hz; adapter DC 12V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	98.1419	26.87	6.39	33.26	43.50	-10.24	360	100	peak
2	251.1804	31.11	7.34	38.45	46.00	-7.55	25	100	peak
3	499.4247	31.04	12.18	43.22	46.00	-2.78	360	100	peak

Test Specification: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	51.8430	27.08	6.45	33.53	40.00	-6.47	360	100	peak
2	251.1804	31.42	7.34	38.76	46.00	-7.24	89	100	peak
3	502.9395	31.37	12.30	43.67	46.00	-2.33	24	100	peak

*Spurious Emissions Above 1GHz**Test Mode: 802.11b (Chain 0)*

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	64.06	0.57	64.63	74.00	-9.37	H	PK
4824	48.95	0.57	49.52	54.00	-4.48	H	AV
7236	42.11	3.69	45.80	74.00	-28.10	H	PK
7236	31.92	3.69	35.61	54.00	-18.39	H	AV
4824	58.73	0.57	59.30	74.00	-14.70	V	PK
4824	42.03	0.57	42.60	54.00	-11.40	V	AV
7236	42.42	3.69	46.11	74.00	-27.89	V	PK
7236	31.76	3.69	35.45	54.00	-18.55	V	AV
Middle Channel-2437MHz							
4874	62.41	0.64	63.05	74.00	-10.95	H	PK
4874	47.57	0.64	48.21	54.00	-5.79	H	AV
7311	45.73	3.75	49.48	74.00	-24.52	H	PK
7311	33.63	3.75	37.38	54.00	-16.62	H	AV
4874	55.72	0.64	56.36	74.00	-17.64	V	PK
4874	41.31	0.64	41.95	54.00	-12.05	V	AV
7311	43.57	3.75	47.32	74.00	-26.68	V	PK
7311	31.45	3.75	35.20	54.00	-18.80	V	AV
High Channel-2462MHz							
4924	60.13	0.72	60.85	74.00	-13.15	H	PK
4924	46.42	0.72	47.14	54.00	-6.86	H	AV
7386	44.74	3.81	48.55	74.00	-25.45	H	PK
7386	31.33	3.81	35.14	54.00	-18.86	H	AV
4924	55.29	0.72	56.01	74.00	-17.99	V	PK
4924	41.58	0.72	42.30	54.00	-11.70	V	AV
7386	42.36	3.81	46.17	74.00	-27.83	V	PK
7386	31.31	3.81	35.12	54.00	-18.88	V	AV

Test Mode: 802.11b (Chain 1)

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	64.61	-3.88	60.73	74.00	-13.27	H	PK
4824	46.11	-3.88	42.23	54.00	-11.77	H	AV
7236	45.79	1.14	46.93	74.00	-27.07	H	PK
7236	34.23	1.14	35.37	54.00	-18.63	H	AV
4824	65.70	-3.88	61.82	74.00	-12.18	V	PK
4824	49.29	-3.88	45.41	54.00	-8.59	V	AV
7236	46.41	1.14	47.55	74.00	-26.45	V	PK
7236	34.74	1.14	35.88	54.00	-18.12	V	AV
Middle Channel-2437MHz							
4874	70.88	-3.74	67.14	74.00	-6.86	H	PK
4874	53.51	-3.74	49.77	54.00	-4.23	H	AV
7311	49.80	1.47	51.27	74.00	-22.73	H	PK
7311	36.57	1.47	38.04	54.00	-15.96	H	AV
4874	68.55	-3.74	64.81	74.00	-9.19	V	PK
4874	51.74	-3.74	48.00	54.00	-6.00	V	AV
7311	50.17	1.47	51.64	74.00	-22.36	V	PK
7311	37.09	1.47	38.56	54.00	-15.44	V	AV
High Channel-2462MHz							
4924	67.32	-3.59	63.73	74.00	-10.27	H	PK
4924	50.88	-3.59	47.29	54.00	-6.71	H	AV
7386	49.07	1.79	50.86	74.00	-23.14	H	PK
7386	36.16	1.79	37.95	54.00	-16.05	H	AV
4924	65.79	-3.59	62.20	74.00	-11.80	V	PK
4924	50.49	-3.59	46.90	54.00	-7.10	V	AV
7386	52.19	1.79	53.98	74.00	-20.02	V	PK
7386	37.56	1.79	39.35	54.00	-14.65	V	AV

Test Mode: 802.11g (Chain 0)

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	52.99	0.57	53.56	74.00	-20.44	H	PK
4824	36.31	0.57	36.88	54.00	-17.12	H	AV
7236	42.62	3.69	46.31	74.00	-27.69	H	PK
7236	31.73	3.69	35.42	54.00	-18.58	H	AV
4824	52.16	0.57	52.73	74.00	-21.27	V	PK
4824	37.44	0.57	38.01	54.00	-15.99	V	AV
7236	42.61	3.69	46.30	74.00	-27.70	V	PK
7236	30.71	3.69	34.40	54.00	-19.60	V	AV
Middle Channel-2437MHz							
4874	56.16	0.64	56.80	74.00	-17.20	H	PK
4874	43.67	0.64	44.31	54.00	-9.69	H	AV
7311	43.62	3.75	47.37	74.00	-26.63	H	PK
7311	32.05	3.75	35.80	54.00	-18.20	H	AV
4874	50.88	0.64	51.52	74.00	-22.48	V	PK
4874	39.19	0.64	39.83	54.00	-14.17	V	AV
7311	42.61	3.75	46.36	74.00	-27.64	V	PK
7311	31.39	3.75	35.14	54.00	-18.86	V	AV
High Channel-2462MHz							
4924	54.68	0.72	55.50	74.00	-18.50	H	PK
4924	41.03	0.72	41.75	54.00	-12.25	H	AV
7386	44.54	3.81	48.35	74.00	-25.65	H	PK
7386	31.40	3.81	35.21	54.00	-18.79	H	AV
4924	48.67	0.72	49.39	74.00	-24.61	V	PK
4924	36.27	0.72	36.99	54.00	-17.01	V	AV
7386	43.42	3.81	47.23	74.00	-26.77	V	PK
7386	31.37	3.81	35.18	54.00	-18.82	V	AV

Test Mode: 802.11g (Chain 1)

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	50.34	-3.88	46.46	74.00	-27.54	H	PK
4824	35.88	-3.88	32.00	54.00	-22.00	H	AV
7236	44.95	1.14	46.09	74.00	-27.91	H	PK
7236	32.58	1.14	33.72	54.00	-20.28	H	AV
4824	51.23	-3.88	47.35	74.00	-26.65	V	PK
4824	37.23	-3.88	33.35	54.00	-20.65	V	AV
7236	44.61	1.14	45.75	74.00	-28.25	V	PK
7236	32.57	1.14	33.71	54.00	-20.29	V	AV
Middle Channel-2437MHz							
4874	59.15	-3.74	55.41	74.00	-18.59	H	PK
4874	43.69	-3.74	39.95	54.00	-14.05	H	AV
7311	46.38	1.47	47.85	74.00	-26.15	H	PK
7311	33.80	1.47	35.27	54.00	-18.73	H	AV
4874	55.07	-3.74	51.33	74.00	-22.67	V	PK
4874	39.35	-3.74	35.61	54.00	-18.39	V	AV
7311	45.16	1.47	46.63	74.00	-27.37	V	PK
7311	33.88	1.47	35.35	54.00	-18.65	V	AV
High Channel-2462MHz							
4924	58.82	-3.59	55.23	74.00	-18.77	H	PK
4924	41.85	-3.59	38.26	54.00	-15.74	H	AV
7386	47.84	1.79	49.63	74.00	-24.37	H	PK
7386	34.50	1.79	36.29	54.00	-17.71	H	AV
4924	57.19	-3.59	53.60	74.00	-20.40	V	PK
4924	41.89	-3.59	38.30	54.00	-15.70	V	AV
7386	45.39	1.79	47.18	74.00	-26.82	V	PK
7386	33.21	1.79	35.00	54.00	-19.00	V	AV

Test Mode: 802.11n-HT20

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	50.63	0.57	51.20	74.00	-21.80	H	PK
4824	35.80	0.57	36.37	54.00	-17.63	H	AV
7236	41.69	3.69	45.38	74.00	-28.62	H	PK
7236	30.76	3.69	34.45	54.00	-19.55	H	AV
4824	52.45	0.57	53.02	74.00	-20.98	V	PK
4824	37.30	0.57	37.87	54.00	-16.13	V	AV
7236	41.86	3.69	45.55	74.00	-28.45	V	PK
7236	30.75	3.69	34.44	54.00	-19.56	V	AV
Middle Channel-2437MHz							
4874	55.44	0.64	56.08	74.00	-17.92	H	PK
4874	43.71	0.64	44.35	54.00	-9.65	H	AV
7311	43.38	3.75	47.13	74.00	-26.87	H	PK
7311	31.88	3.75	35.63	54.00	-18.37	H	AV
4874	50.87	0.64	51.51	74.00	-22.49	V	PK
4874	38.98	0.64	39.62	54.00	-14.38	V	AV
7311	43.40	3.75	47.15	74.00	-26.85	V	PK
7311	31.39	3.75	35.20	54.00	-18.80	V	AV
High Channel-2462MHz							
4924	52.19	0.72	52.91	74.00	-21.09	H	PK
4924	38.64	0.72	39.36	54.00	-14.64	H	AV
7386	44.28	3.81	48.09	74.00	-25.91	H	PK
7386	31.50	3.81	35.31	54.00	-18.69	H	AV
4924	48.76	0.72	49.48	74.00	-24.52	V	PK
4924	36.13	0.72	36.85	54.00	-17.15	V	AV
7386	43.13	3.81	46.94	74.00	-27.06	V	PK
7386	31.33	3.81	35.14	54.00	-18.86	V	AV

Test Mode: 802.11n-HT40

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2422MHz							
4844	48.91	0.60	49.51	74.00	-24.49	H	PK
4844	37.30	0.60	37.90	54.00	-16.10	H	AV
7266	41.70	3.72	45.42	74.00	-28.58	H	PK
7266	30.78	3.72	34.50	54.00	-19.50	H	AV
4844	48.66	0.60	49.26	74.00	-24.74	V	PK
4844	37.54	0.60	38.14	54.00	-15.86	V	AV
7266	42.62	3.72	46.34	74.00	-27.66	V	PK
7266	30.93	3.72	34.65	54.00	-19.35	V	AV
Middle Channel-2437MHz							
4874	52.18	0.64	52.82	74.00	-21.18	H	PK
4874	41.02	0.64	41.66	54.00	-12.34	H	AV
7311	42.88	3.75	46.63	74.00	-27.37	H	PK
7311	31.48	3.75	35.23	54.00	-18.77	H	AV
4874	48.16	0.64	48.80	74.00	-25.20	V	PK
4874	36.70	0.64	37.34	54.00	-16.66	V	AV
7311	42.50	3.75	46.25	74.00	-27.75	V	PK
7311	33.37	3.75	37.12	54.00	-16.88	V	AV
High Channel-2452MHz							
4904	55.77	0.68	56.45	74.00	-17.55	H	PK
4904	45.77	0.68	46.45	54.00	-7.55	H	AV
7356	45.15	3.79	48.94	74.00	-25.06	H	PK
7356	33.13	3.79	36.92	54.00	-17.08	H	AV
4904	51.44	0.68	52.12	74.00	-21.88	V	PK
4904	41.09	0.68	41.77	54.00	-12.23	V	AV
7356	43.03	3.79	46.82	74.00	-27.18	V	PK
7356	31.45	3.79	35.24	54.00	-18.76	V	AV

Test Mode: 802.11n-HT20 with two transmit chain

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2412MHz							
4824	52.88	0.57	53.45	74.00	-20.55	H	PK
4824	37.87	0.57	38.44	54.00	-15.56	H	AV
7236	42.64	3.69	46.33	74.00	-27.67	H	PK
7236	31.56	3.69	35.25	54.00	-18.75	H	AV
4824	54.30	0.57	54.87	74.00	-19.13	V	PK
4824	38.25	0.57	38.82	54.00	-15.18	V	AV
7236	42.83	3.69	46.52	74.00	-27.48	V	PK
7236	31.72	3.69	35.41	54.00	-18.59	V	AV
Middle Channel-2437MHz							
4874	56.69	0.64	57.33	74.00	-16.67	H	PK
4874	43.57	0.64	44.21	54.00	-9.79	H	AV
7311	44.14	3.75	47.89	74.00	-26.11	H	PK
7311	32.89	3.75	36.64	54.00	-17.36	H	AV
4874	51.81	0.64	52.45	74.00	-21.55	V	PK
4874	39.93	0.64	40.57	54.00	-13.43	V	AV
7311	44.47	3.75	48.22	74.00	-25.78	V	PK
7311	32.53	3.75	36.28	54.00	-17.72	V	AV
High Channel-2462MHz							
4924	52.96	0.72	53.68	74.00	-20.32	H	PK
4924	40.04	0.72	40.76	54.00	-13.24	H	AV
7386	44.83	3.81	48.64	74.00	-25.36	H	PK
7386	32.53	3.81	36.34	54.00	-17.66	H	AV
4924	46.72	0.72	47.44	74.00	-26.56	V	PK
4924	35.10	0.72	35.82	54.00	-18.18	V	AV
7386	42.75	3.81	46.56	74.00	-27.44	V	PK
7386	31.92	3.81	35.73	54.00	-18.27	V	AV

Test Mode: 802.11n-HT40 with two transmit chain

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2422MHz							
4844	49.96	0.60	50.56	74.00	-23.44	H	PK
4844	38.33	0.60	38.93	54.00	-15.07	H	AV
7266	42.17	3.72	45.89	74.00	-28.11	H	PK
7266	30.81	3.72	34.53	54.00	-19.47	H	AV
4844	48.62	0.60	49.22	74.00	-24.78	V	PK
4844	38.64	0.60	39.24	54.00	-14.76	V	AV
7266	41.34	3.72	45.06	74.00	-28.94	V	PK
7266	30.88	3.72	34.60	54.00	-19.40	V	AV
Middle Channel-2437MHz							
4874	53.69	0.64	54.33	74.00	-19.67	H	PK
4874	43.46	0.64	44.10	54.00	-9.90	H	AV
7311	43.86	3.75	47.61	74.00	-26.39	H	PK
7311	32.65	3.75	36.40	54.00	-17.60	H	AV
4874	47.89	0.64	48.53	74.00	-25.47	V	PK
4874	36.45	0.64	37.09	54.00	-16.91	V	AV
7311	42.36	3.75	46.11	74.00	-27.89	V	PK
7311	33.95	3.75	37.70	54.00	-16.30	V	AV
High Channel-2452MHz							
4904	54.72	0.68	55.40	74.00	-18.60	H	PK
4904	45.65	0.68	46.33	54.00	-7.67	H	AV
7356	45.75	3.79	49.54	74.00	-24.46	H	PK
7356	33.32	3.79	37.11	54.00	-16.89	H	AV
4904	52.82	0.68	53.50	74.00	-20.50	V	PK
4904	42.76	0.68	43.44	54.00	-10.56	V	AV
7356	44.01	3.79	47.80	74.00	-26.20	V	PK
7356	32.52	3.79	36.31	54.00	-17.69	V	AV

Note1: The EUT will be simultaneous transmission at the chain 0 and chain 1 for the mode of 802.11n HT20 or HT40, transmission only single at chain 0 or chain 1 for 802.11b/g;

Note2: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The measurements greater than 20dB below the limit from 9kHz to 30MHz and the data is not display.

8. Out of Band Emissions

8.1 Standard Applicable

According to §15.247 (d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

8.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2013-05-07	2014-05-06
EMI Test Receiver	R&S	ESVB	825471/005	2013-05-07	2014-05-06
Pre-amplifier	Agilent	8447F	3113A06717	2013-05-07	2014-05-06
Pre-amplifier	Compliance Direction	PAP-0118	24002	2013-05-07	2014-05-06
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2013-04-20	2014-04-19
Horn Antenna	ETS	3117	00086197	2013-04-20	2014-04-19

8.3 Test Procedure

According to the KDB 558074 D01 v03r01, the band-edge radiated test method as follows:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)

RBW = 1MHz, VBW = 1MHz for peak value measured

RBW = 1MHz, VBW = 10Hz for average value measured

Sweep = auto; Detector function = peak/average; Trace = max hold

All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.

According to the KDB 558074 D01 v03r01, the conducted spurious emissions test method as follows:

1. Set start frequency to DTS channel edge frequency.
2. Set stop frequency so as to encompass the spectrum to be examined.
3. Set RBW = 100 kHz.
4. Set VBW \geq 300 kHz.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.

8.4 Environmental Conditions

Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

8.5 Summary of Test Results/Plots

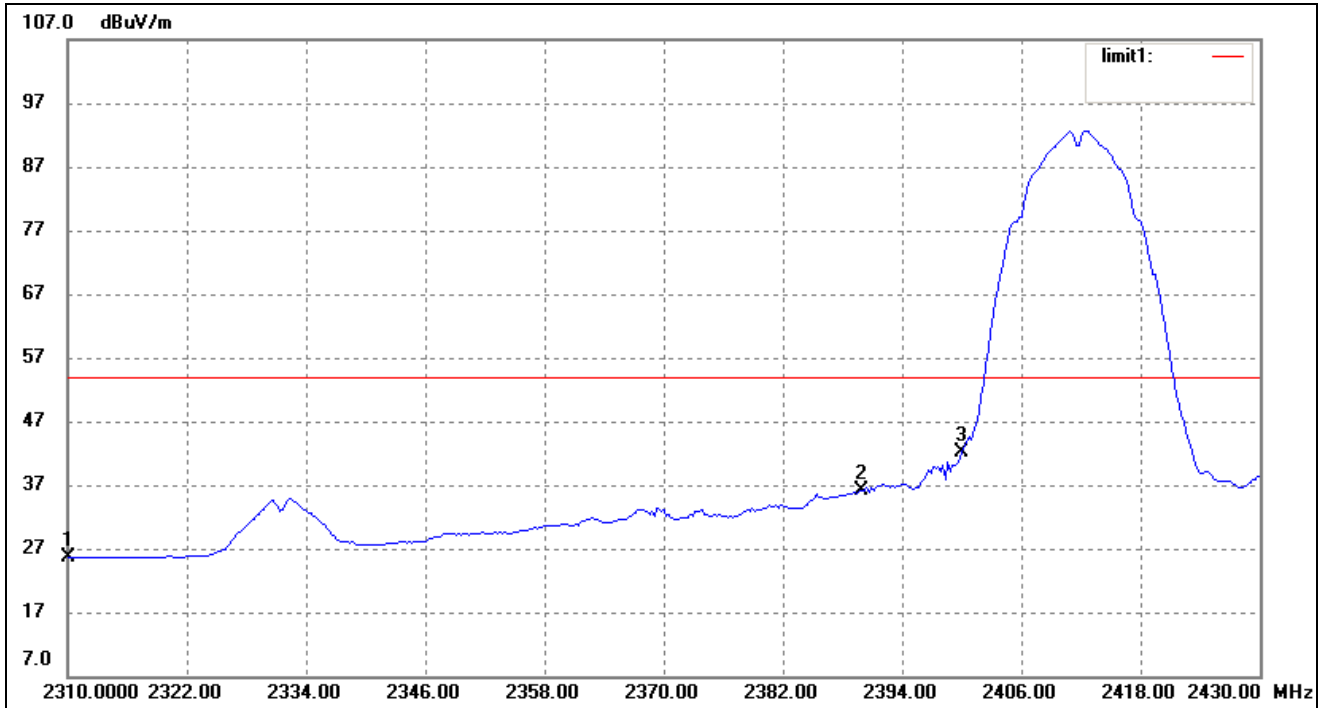
Test Mode	Test Frequency MHz	Limit dBuV / dBc	Result
802.11b(Chain 0)	2310.00	<54 dBuV	Pass
	2390.00	<54 dBuV	Pass
	2400.00	<54 dBuV	Pass
	2483.50	<54 dBuV	Pass
802.11b(Chain 1)	2310.00	<54 dBuV	Pass
	2390.00	<54 dBuV	Pass
	2400.00	<54 dBuV	Pass
	2483.50	<54 dBuV	Pass
802.11g(Chain 0)	2310.00	<54 dBuV	Pass
	2390.00	<54 dBuV	Pass
	2400.00	<54 dBuV	Pass
	2483.50	<54 dBuV	Pass
802.11g(Chain 1)	2310.00	<54 dBuV	Pass
	2390.00	<54 dBuV	Pass
	2400.00	>20 dBc	Pass
	2483.50	<54 dBuV	Pass
802.11n-HT20	2310.00	<54 dBuV	Pass
	2390.00	<54 dBuV	Pass
	2400.00	<54 dBuV	Pass
	2483.50	<54 dBuV	Pass
802.11n-HT40	2310.00	<54 dBuV	Pass
	2390.00	<54 dBuV	Pass
	2400.00	<54 dBuV	Pass
	2483.50	<54 dBuV	Pass

The edge emissions are below the FCC 15.209 Limits or complies with the 15.247(d) requirements.

Please refer to the test plots as below.

802.11b-Lowest Bandedge (Chain 0)

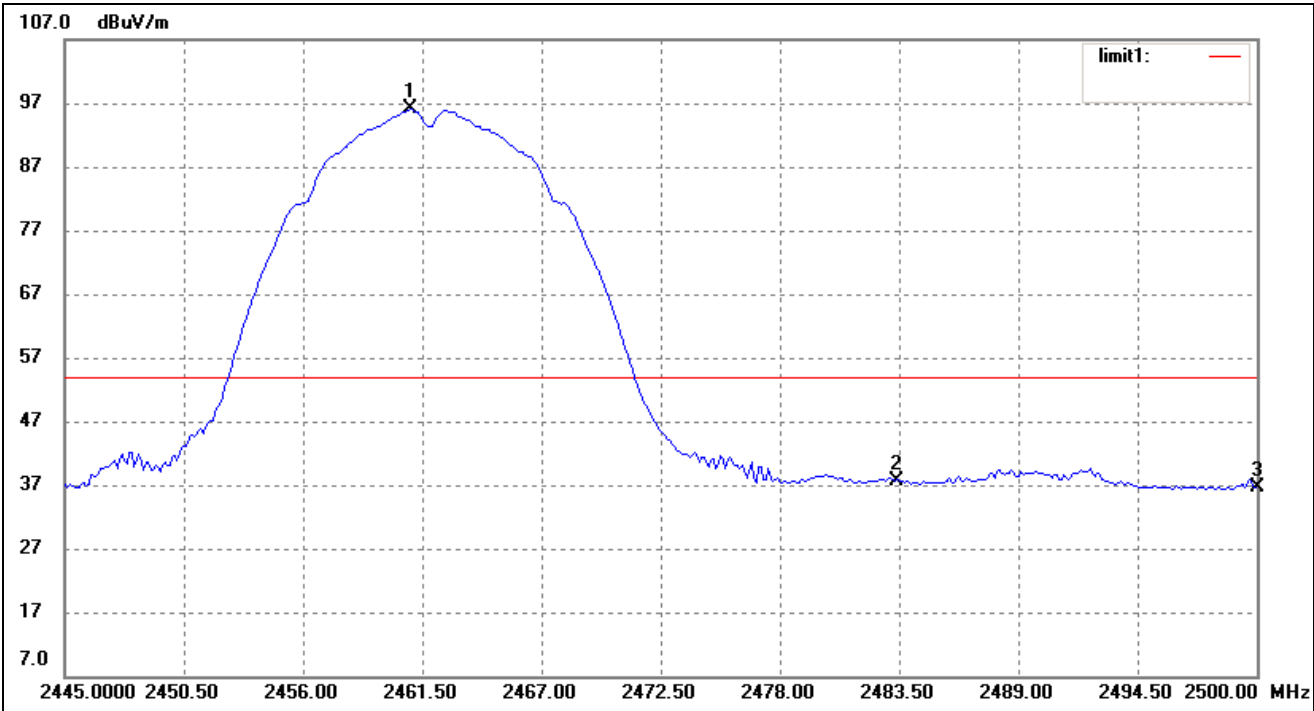
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	29.30	-3.71	25.59	54.00	-28.41	Average Detector
	2310.000	41.38	-3.71	37.67	74.00	-36.33	Peak Detector
2	2390.000	39.72	-3.54	36.18	54.00	-17.82	Average Detector
	2390.000	52.26	-3.54	48.72	74.00	-25.28	Peak Detector
3	2400.000	45.65	-3.51	42.14	54.00	-11.86	Average Detector
	2400.000	56.04	-3.51	52.53	74.00	-21.47	Peak Detector

802.11b-Highest Bandedge (Chain 0)

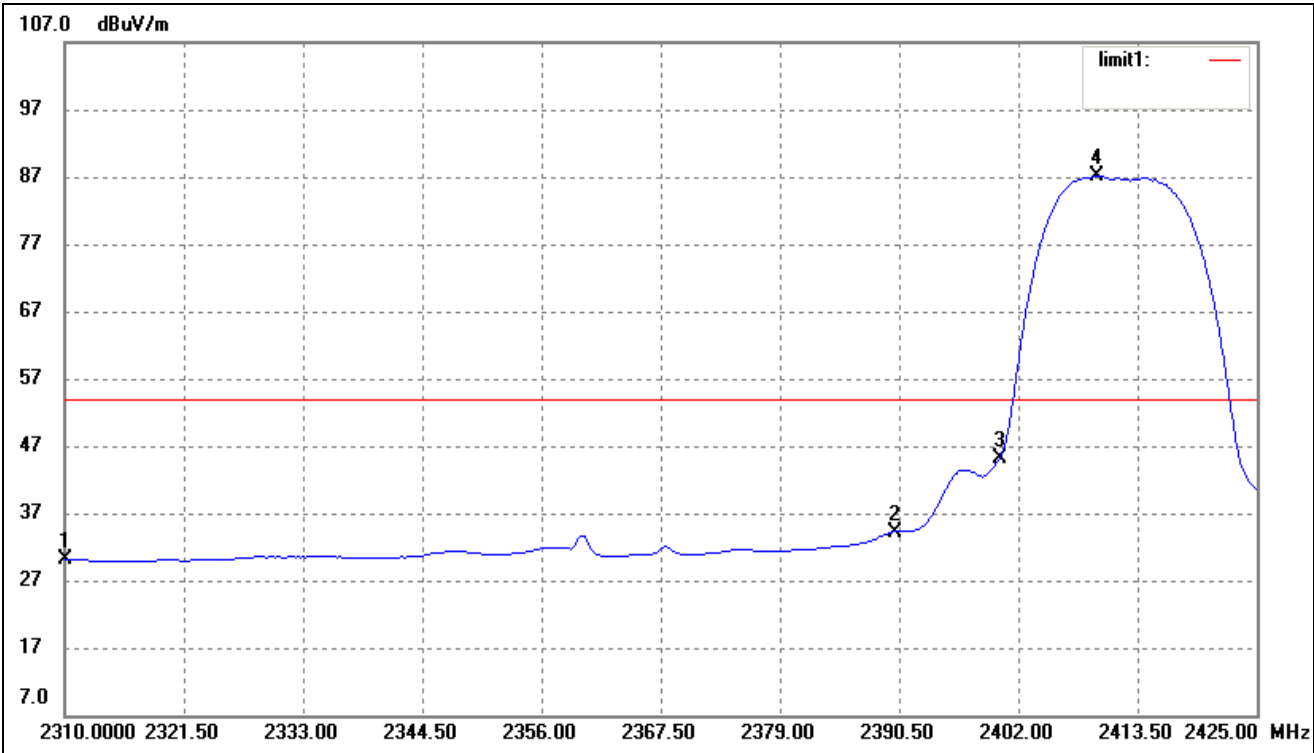
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2461.043	99.42	-3.37	96.05	/	/	Average Detector
	2461.043	103.37	-3.37	100.00	/	/	Peak Detector
2	2483.500	Delta = 50.54dBc		37.75	54.00	-16.25	Average Detector
	2483.500			49.46	74.00	-24.54	Peak Detector
3	2500.000	39.88	-3.28	36.60	54.00	-17.40	Average Detector
	2500.000	51.52	-3.28	48.24	74.00	-25.76	Peak Detector

802.11b-china 1-Lowest Bandedge (Chain 1)

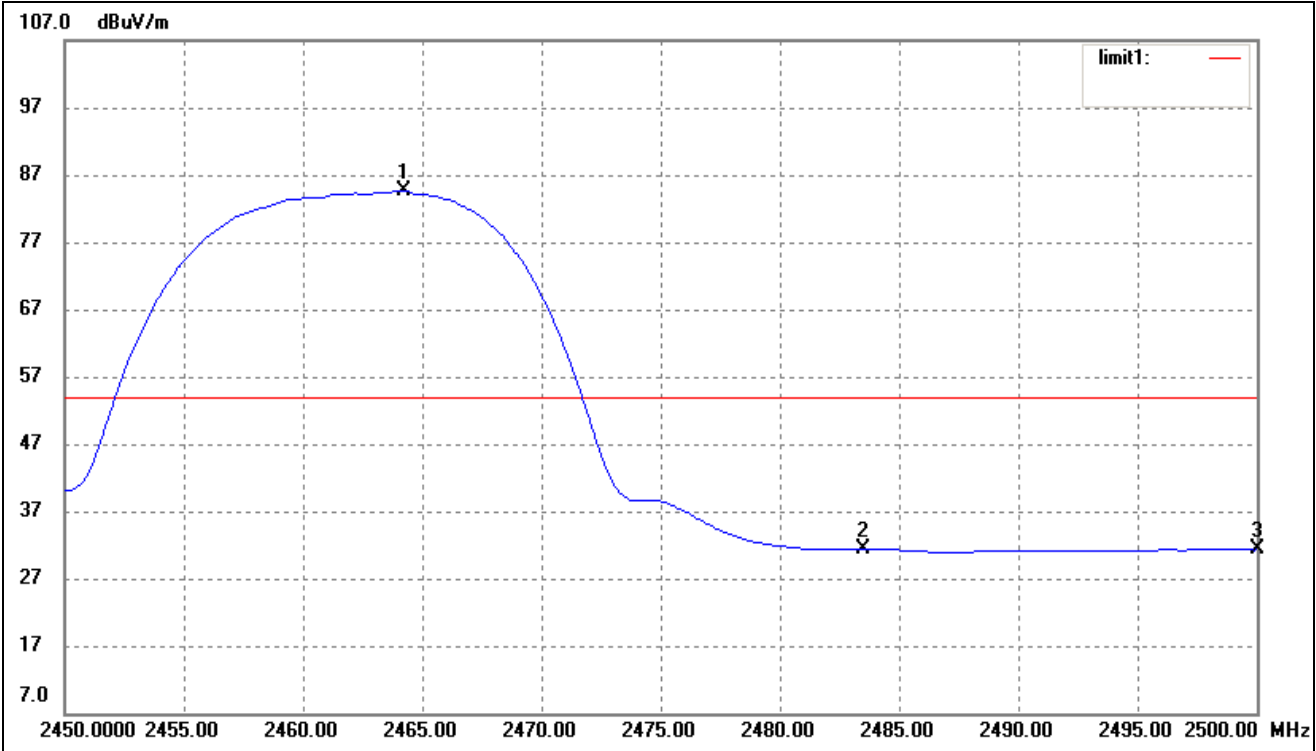
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	33.83	-3.71	30.12	54.00	-23.88	Average Detector
	2310.000	46.59	-3.71	42.88	74.00	-31.12	Peak Detector
2	2390.000	37.79	-3.54	34.25	54.00	-19.75	Average Detector
	2390.000	50.95	-3.54	47.41	74.00	-26.59	Peak Detector
3	2400.000	48.73	-3.51	45.22	Delta = 41.94 dBc		Average Detector
4	2409.590	90.64	-3.48	87.16			Average Detector

802.11b-Highest Bandedge (Chain 1)

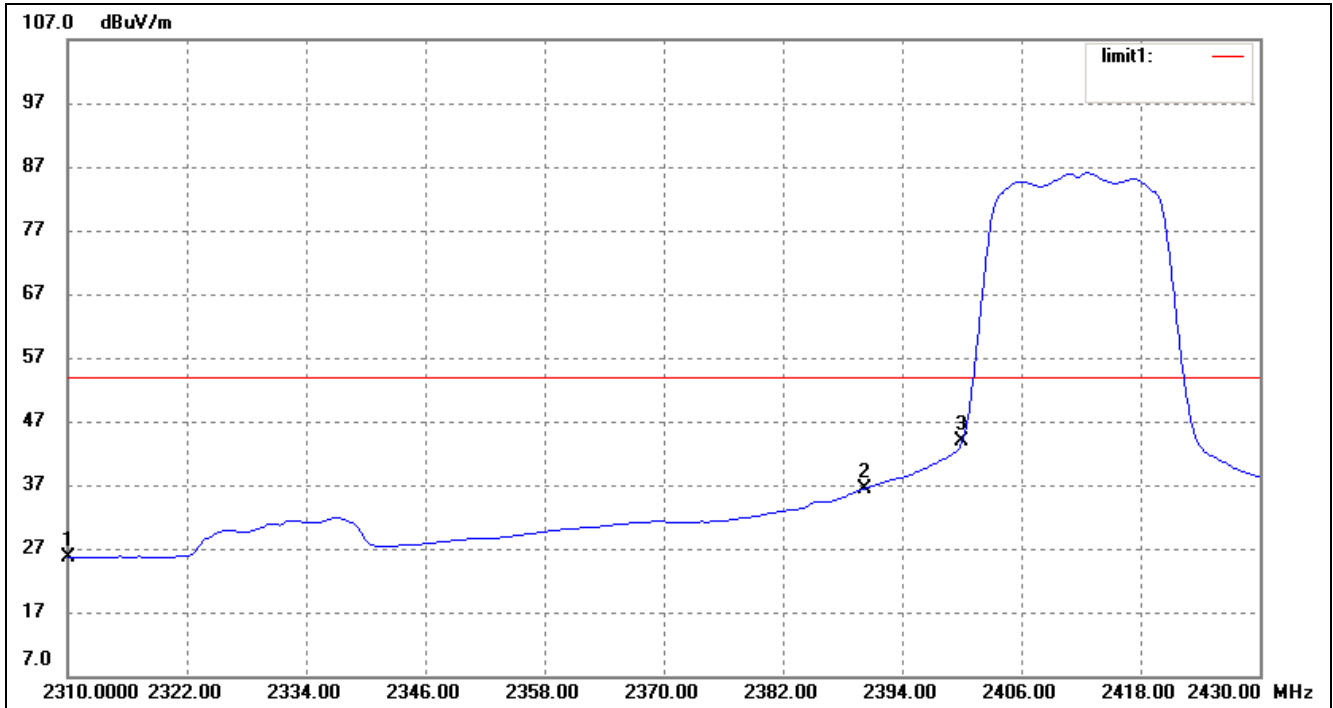
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2464.200	87.96	-3.36	84.60	/	/	Average Detector
	2460.700	102.84	-3.37	99.47	/	/	Peak Detector
2	2483.500	Delta = 52.7 dBc		31.90	54.00	-22.10	Average Detector
	2483.500			46.77	74.00	-27.22	Peak Detector
3	2500.000	34.54	-3.28	31.26	54.00	-22.74	Average Detector
	2500.000	49.32	-3.28	46.04	74.00	-27.96	Peak Detector

802.11g-Lowest Bandedge (Chain 0)

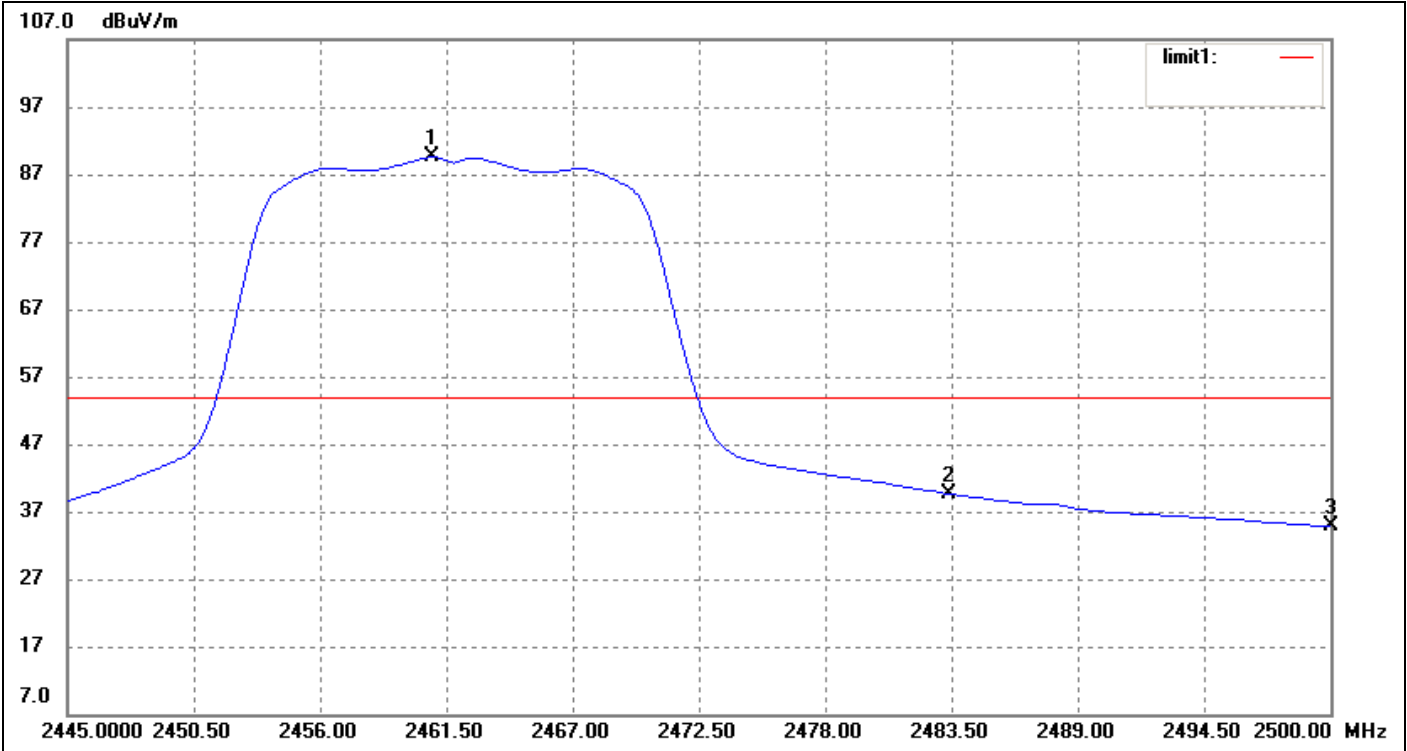
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	29.27	-3.71	25.56	54.00	-28.44	Average Detector
	2310.000	41.78	-3.71	38.07	74.00	-35.93	Peak Detector
2	2390.000	39.97	-3.54	36.43	54.00	-17.57	Average Detector
	2390.000	60.71	-3.54	57.17	74.00	-16.83	Peak Detector
3	2400.000	47.27	-3.51	43.76	54.00	-10.24	Average Detector
	2400.000	72.34	-3.51	68.83	74.00	-5.17	Peak Detector

802.11g-Highest Bandedge (Chain 0)

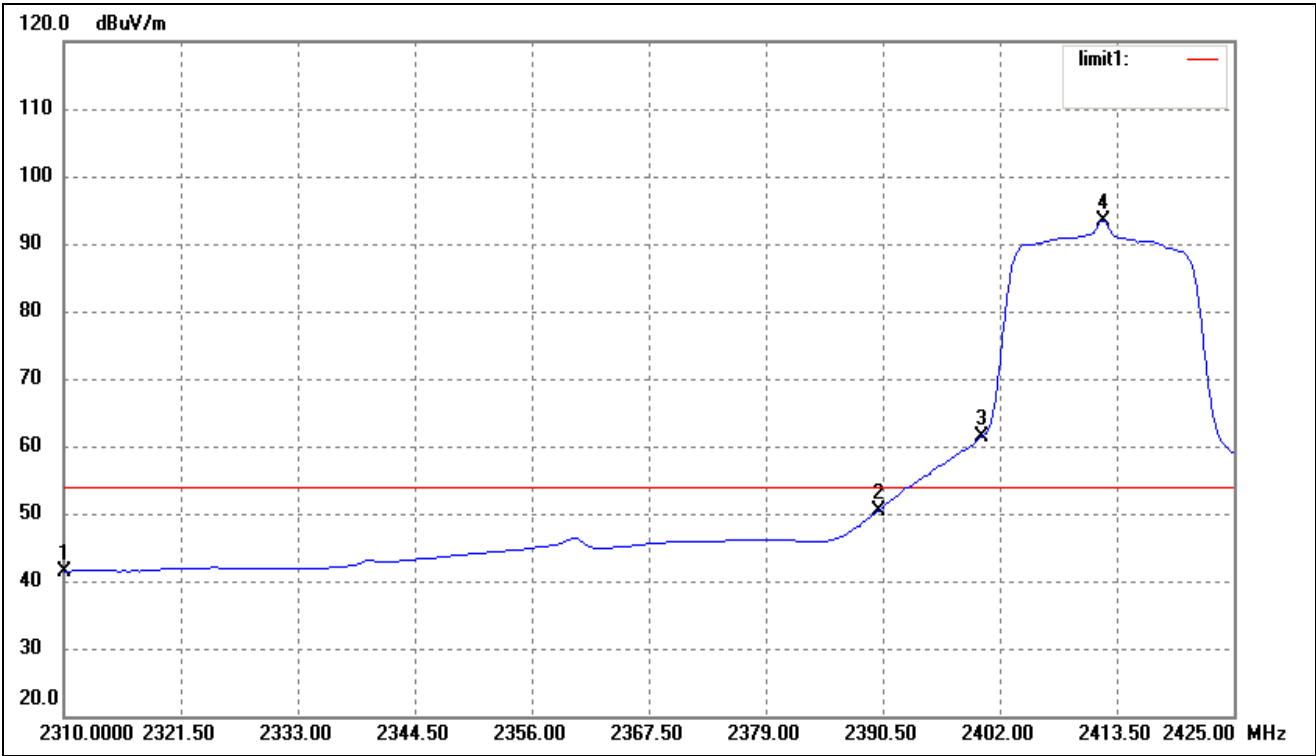
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2460.934	92.93	-3.37	89.56	/	/	Average Detector
	2460.934	104.93	-3.37	101.56	/	/	Peak Detector
2	2483.500	Delta = 40.01dBc		39.59	54.00	-14.41	Average Detector
	2483.500			61.55	74.00	-12.45	Peak Detector
3	2500.000	38.12	-3.28	34.84	54.00	-19.16	Average Detector
	2500.000	51.62	-3.28	48.34	74.00	-25.66	Peak Detector

802.11g-Lowest Bandedge (Chain 1)

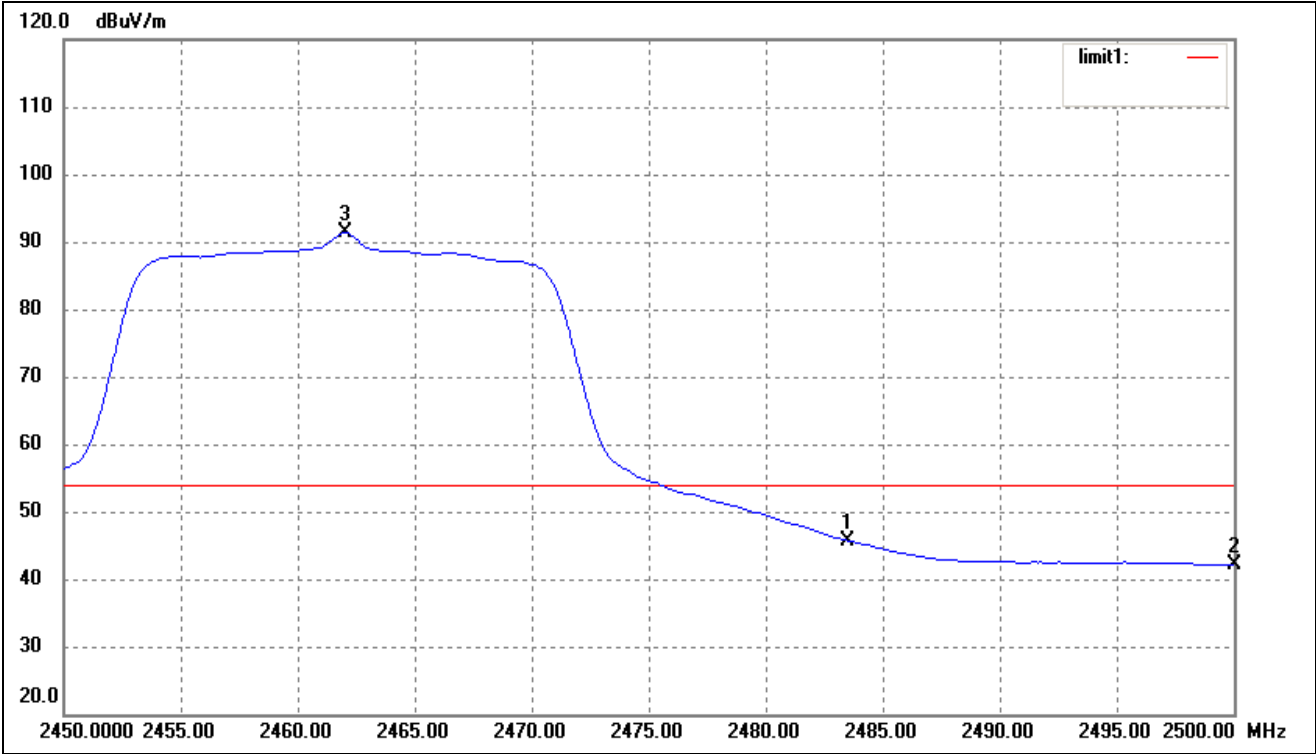
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	48.51	-7.07	41.44	54.00	-12.56	Average Detector
	2310.000	62.23	-7.07	55.16	74.00	-18.84	Peak Detector
2	2390.000	57.37	-6.92	50.45	54.00	-3.55	Average Detector
	2390.000	77.09	-6.92	70.17	74.00	-3.83	Peak Detector
3	2400.000	68.28	-6.89	61.39	Delta = 32.01dBc		Average Detector
4	2412.120	100.26	-6.86	93.40			Average Detector

802.11g-Highest Bandedge (Chain 1)

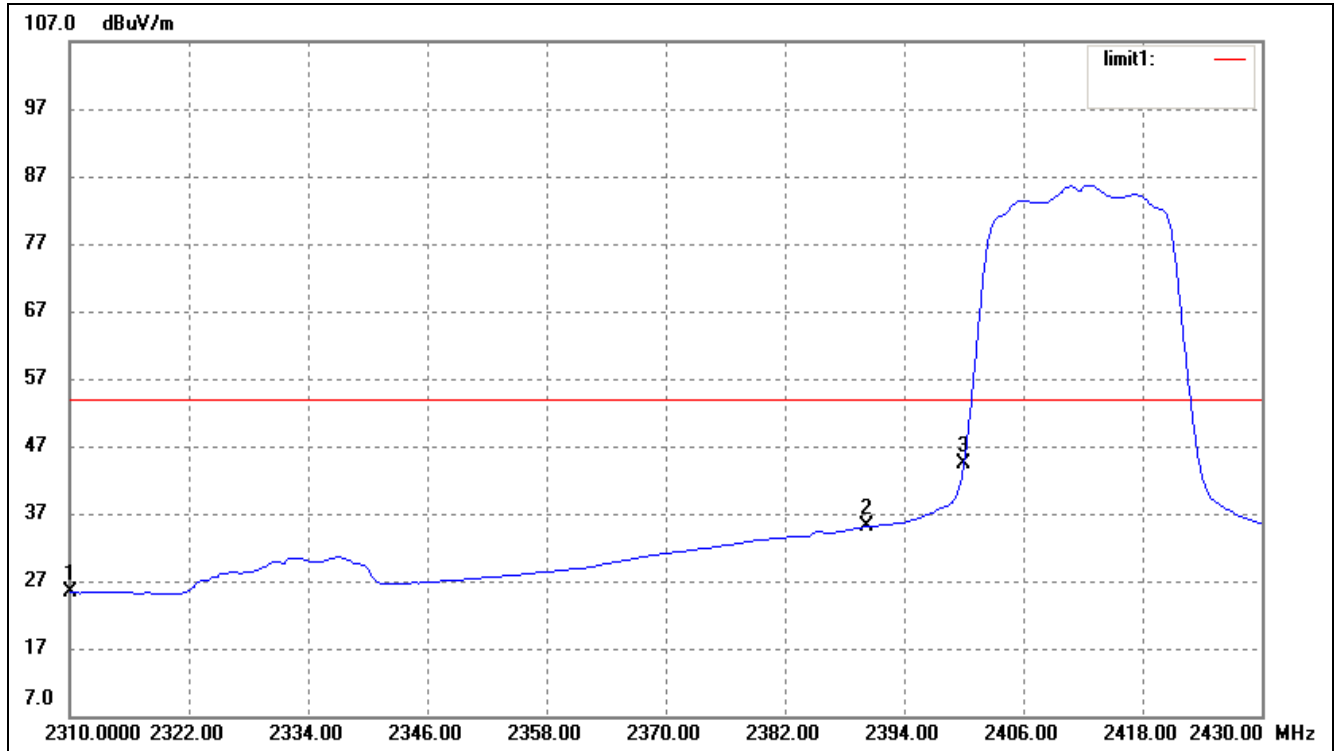
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
3	2462.000	98.06	-6.76	91.30	/	/	Average Detector
	2462.000	108.61	-6.76	101.85	/	/	Peak Detector
1	2483.500	Delta = 59.57dBc		31.37	54.00	-22.27	Average Detector
	2483.500			42.28	74.00	-31.72	Peak Detector
2	2500.000	48.82	-6.68	42.14	54.00	-11.86	Average Detector
	2500.000	62.10	-6.68	55.42	74.00	-18.58	Peak Detector

802.11n-HT20-Lowest Bandedge

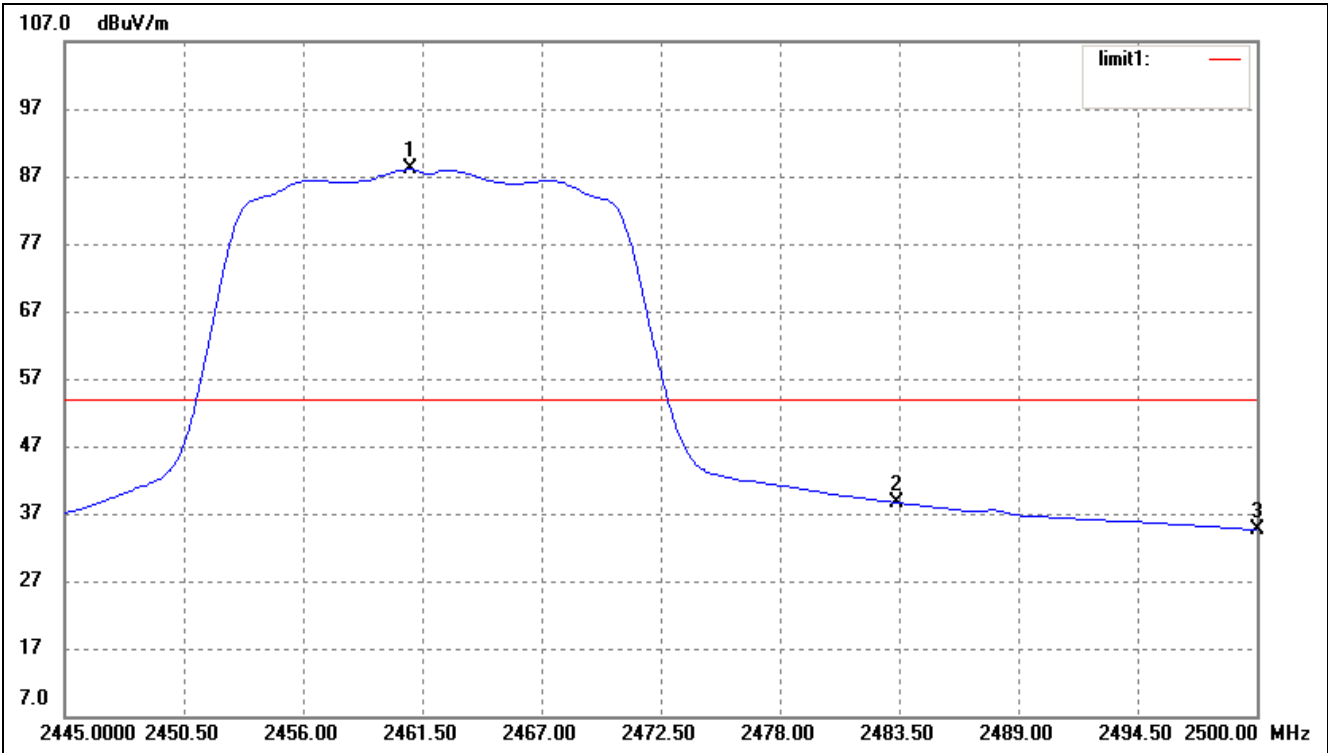
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	29.02	-3.71	25.31	54.00	-28.69	Average Detector
	2310.000	41.35	-3.71	37.64	74.00	-36.36	Peak Detector
2	2390.000	38.62	-3.54	35.08	54.00	-18.92	Average Detector
	2390.000	57.79	-3.54	54.25	74.00	-19.75	Peak Detector
3	2400.000	47.98	-3.51	44.47	54.00	-9.53	Average Detector
	2400.000	68.06	-3.51	64.55	74.00	-9.45	Peak Detector

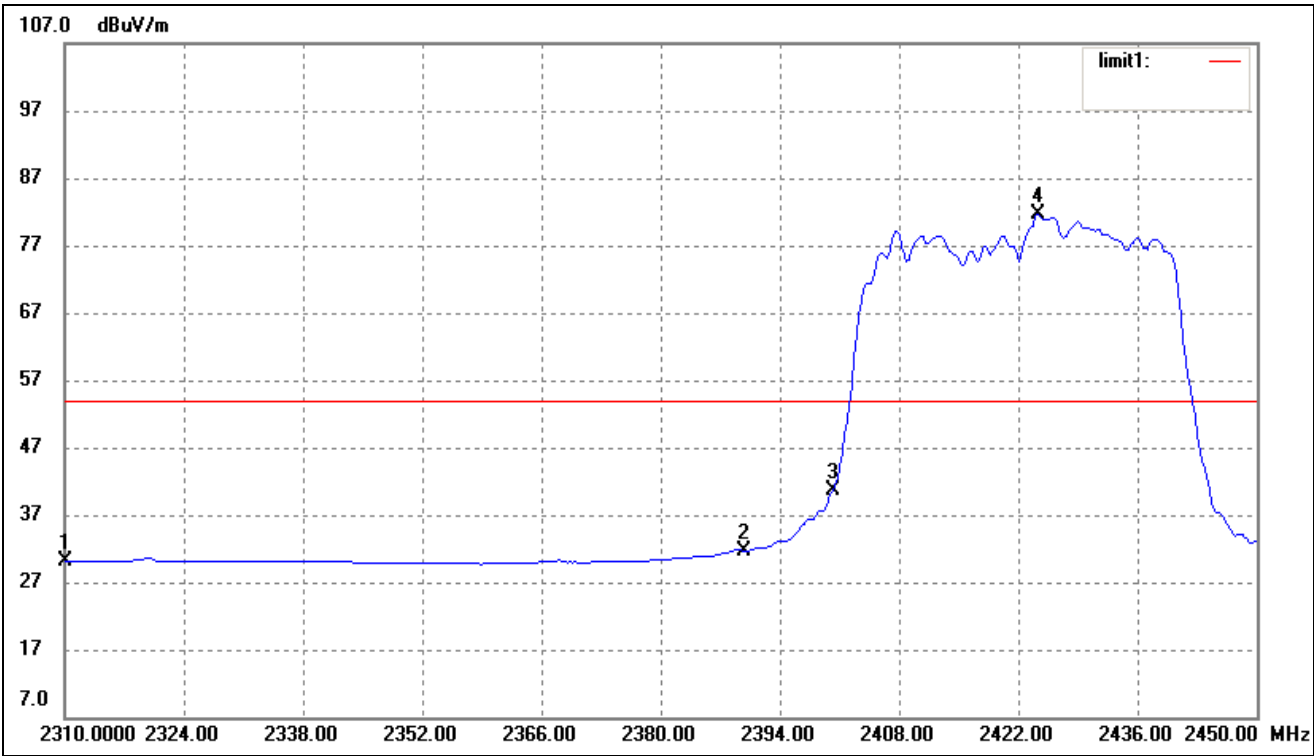
802.11n-HT20-Highest Bandedge

Vertical (Worst case)

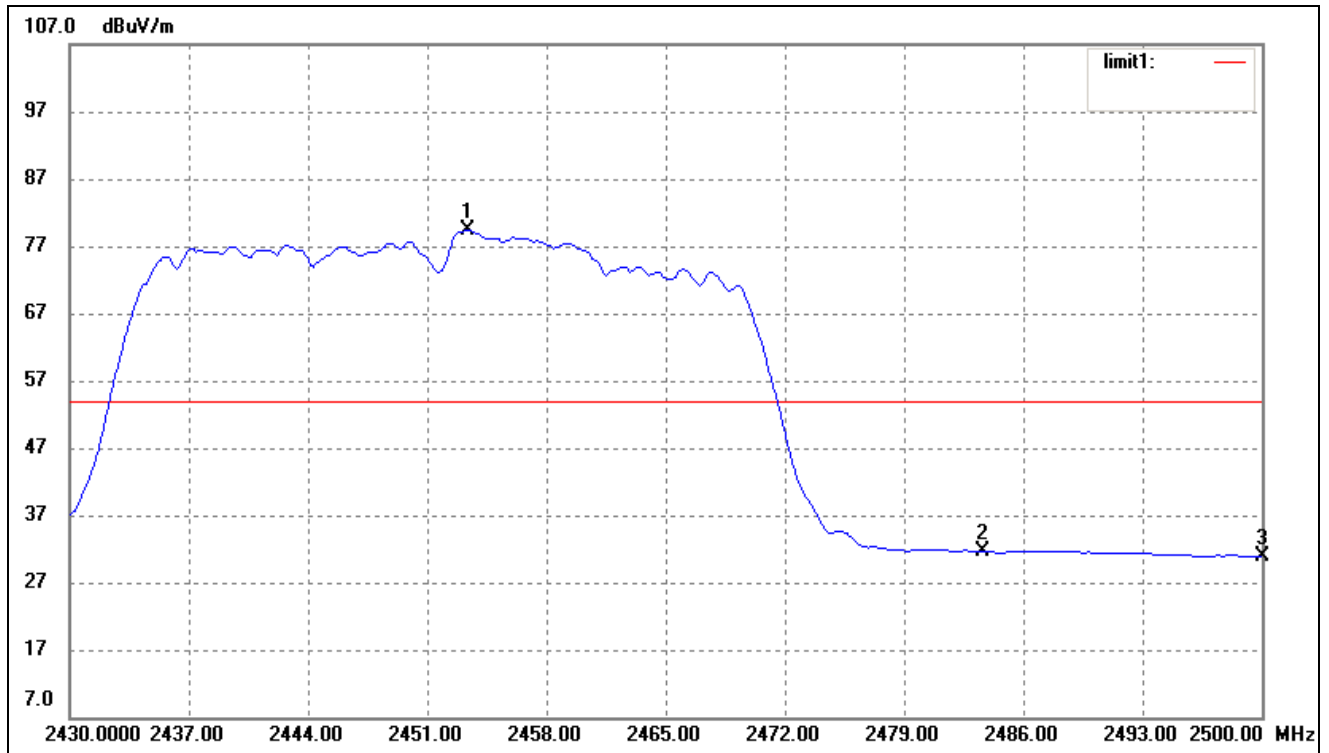


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2461.043	91.45	-3.37	88.08	/	/	Average Detector
	2461.043	102.84	-3.37	99.47	/	/	Peak Detector
2	2483.500	Delta = 41.45dBc		38.59	54.00	-15.41	Average Detector
	2483.500			58.02	74.00	-15.98	Peak Detector
3	2500.000	37.92	-3.28	34.64	54.00	-19.36	Average Detector
	2500.000	2500.000	50.07	-3.28	46.79	74.00	Peak Detector

802.11n-HT40-Lowest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	33.91	-3.71	30.20	54.00	-23.80	Average Detector
	2310.000	46.93	-3.71	43.22	74.00	-30.78	Peak Detector
2	2390.000	35.10	-3.54	31.56	54.00	-22.44	Average Detector
	2390.000	49.46	-3.54	45.92	74.00	-28.08	Peak Detector
3	2400.000	44.22	-3.51	40.71	Delta = 40.92 dBc		Average Detector
4	2424.240	85.08	-3.45	81.63			Average Detector

802.11n-HT40-Highest Bandedge

No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2453.380	82.78	-3.38	79.40	/	/	Average Detector
	2453.660	91.87	-3.38	88.49	/	/	Peak Detector
2	2483.500	Delta = 42.55 dBc		36.85	54.00	-17.15	Average Detector
	2483.500			45.94	74.00	-28.06	Peak Detector
3	2500.000	34.19	-3.28	30.91	54.00	-23.09	Average Detector
	2500.000	48.28	-3.28	45.00	74.00	-29.00	Peak Detector

Note1: The EUT will be simultaneous transmission at the chain 0 and chain 1 for the mode of 802.11n HT20 or HT40, transmission only single at chain 0 or chain 1 for 802.11b/g;

9. Conducted Emissions

9.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

9.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2013-05-07	2014-05-06
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2013-05-07	2014-05-06
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2013-05-07	2014-05-06

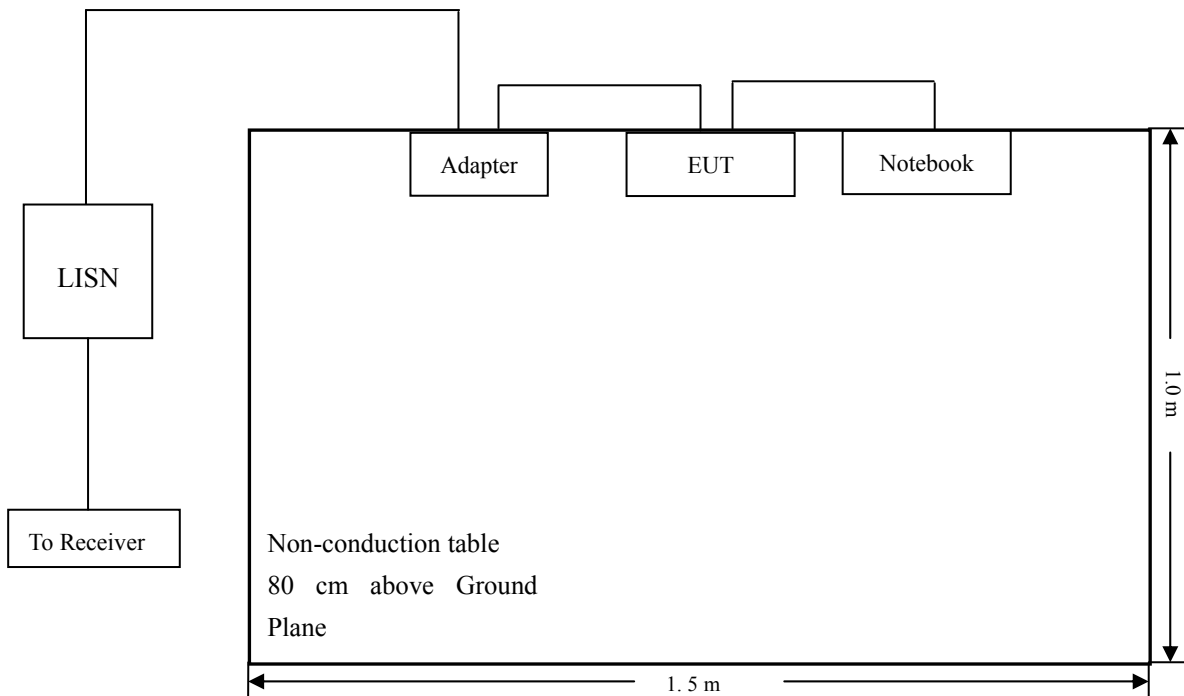
9.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

9.4 Basic Test Setup Block Diagram



9.5 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

9.6 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency 150 kHz
Stop Frequency..... 30 MHz
Sweep Speed Auto
IF Bandwidth..... 10 kHz
Quasi-Peak Adapter Bandwidth 9 kHz
Quasi-Peak Adapter Mode Normal

9.7 Summary of Test Results/Plots

According to the data in section 9.8, the EUT complied with the FCC Part 15.207 Conducted margin for a Class B device, with the *worst* margin reading of:

-3.06 dB at 0.162MHz in the Neutral mode, Max peak detector, 0.15-30MHz

9.8 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

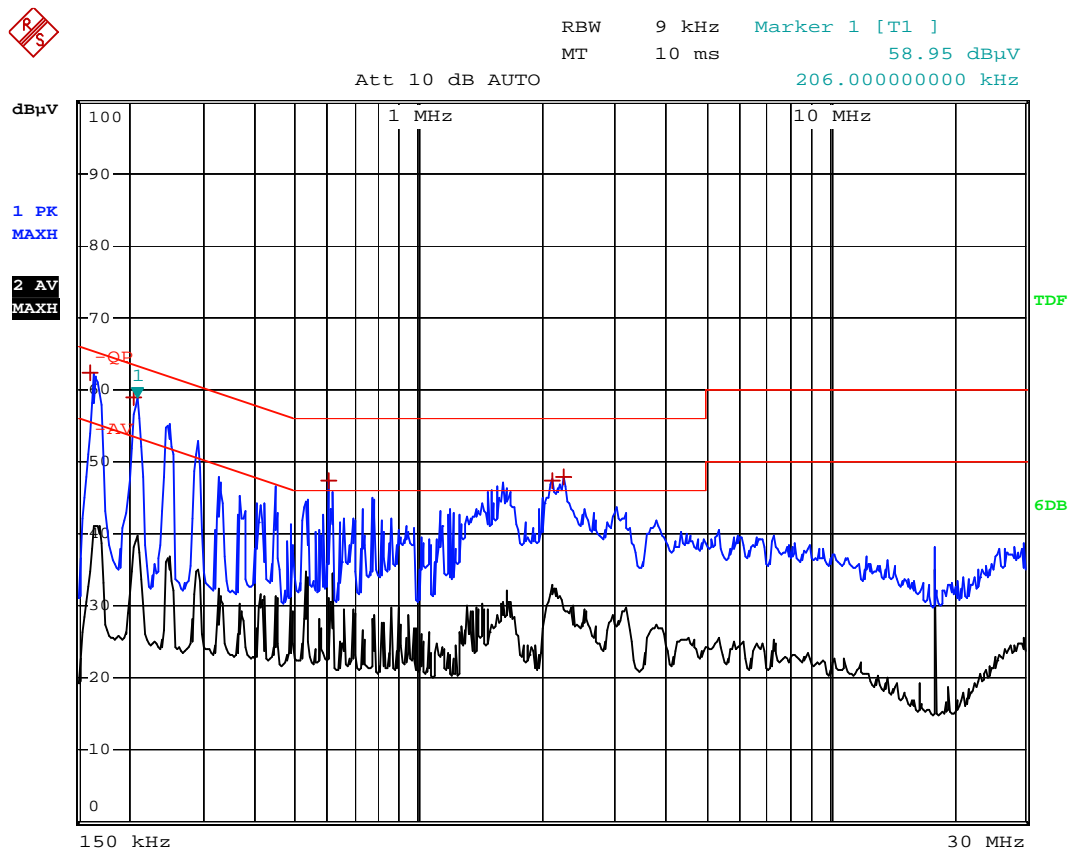
EUT:ADSL Home Gateway

Tested Model:H-A800 V1.5

Operating Condition:Transmitting

Comment:AC 120V/60Hz, Adapter DC 12V

Test Specification:Neutral



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Max Peak	162 kHz	62.29	-3.06
1 Max Peak	206 kHz	58.94	-4.41
1 Max Peak	606 kHz	47.33	-8.66
1 Max Peak	2.114 MHz	47.42	-8.57
1 Max Peak	2.25 MHz	47.78	-8.21

